



UNIVERSITY OF SCRANTON

The Graduate School
1987/1988 Graduate Catalog

UNIVERSITY OF SCRANTON

THE GRADUATE SCHOOL 1987/1988 CATALOG

Where Potential
Becomes
Achievement
in the
Jesuit Tradition

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The Graduate School
University of Scranton
Scranton, Pennsylvania 18510-2192

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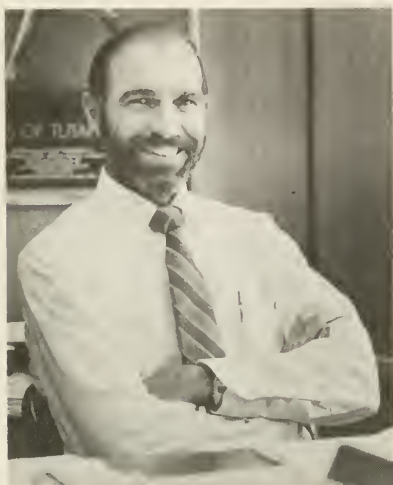
STATEMENT OF OWNERSHIP

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CORPORATE TITLE

“University of Scranton”
Scranton, Pennsylvania

To the Prospective Graduate Student:



The 1987-88 year marks the one hundredth year that the University of Scranton has served the higher education needs of the people of Northeastern Pennsylvania. In recent years, the University has attracted a student clientele from an ever broader area and has emerged as one of the most respected universities in the East.

For over thirty-six years, the Graduate School has participated in this tradition of service, providing advanced education at the master's degree level in a broad spectrum of fields. The hallmarks of the institution which we try to emphasize are academic rigor in our programs and caring for the individual student in our relationships. Surveys we have carried out with our students show that, indeed, these are among the characteristics most noted by students.

Whether your goal be preparation for further advanced study, professional development and advancement, or simply to learn, I invite you to discuss with our faculty, staff, and present students the Graduate School's programs.

A handwritten signature in dark ink, reading "Thomas P. Hogan". The signature is fluid and cursive, with the first name "Thomas" and last name "Hogan" clearly legible.

Thomas P. Hogan, Ph.D.
Dean of the Graduate School
and Director of Research

Calendar

Fall Term 1987

July 1-31	Pre-registration for Fall Term
AUGUST 31*	FALL TERM BEGINS. Final Registration
September 4	Late fee for registration or schedule change after this date
September 18	NO registrations or course adds accepted after this date
September 18	Deadline for applying for October comprehensives
September 18	Deadline for applying for December degree
October 3	Comprehensive examinations
October 16	Deadline for submission of thesis or scholarly paper to Graduate Office
November 13	Last day to withdraw from a course
November 24-29	Thanksgiving holidays: No classes these days
DECEMBER 14-17	FINAL EXAMINATIONS

*NB: This is one day before the Undergraduate Schools begin

Intersession Term 1988

November 1-30	Pre-registration for Intersession
JANUARY 4	INTERSESSION TERM BEGINS Final registration
January 8	Late fee for registration or schedule change after this date
January 15	No registrations or course adds accepted after this date
January 19	Last day to withdraw from a course
JANUARY 27-28	INTERSESSION FINAL EXAMINATIONS

Spring Term 1988

November 1-December 31	Pre-registration for Spring Term
FEBRUARY 1	SPRING TERM BEGINS Final registration
February 5	Late fee for registrations or schedule change after this date
February 19	NO registrations or course adds accepted after this date
February 19	Deadline for applying for March comprehensives
February 19	Deadline for applying for May degree
March 5	Comprehensive examinations
March 18	Deadline for submission of thesis or scholarly paper to Graduate Office
March 31-April 4	Easter holidays: No classes these days
April 15	Last day to withdraw from a course
MAY 16-19	SPRING TERM FINAL EXAMINATIONS
May 28	Graduate School Commencement

SUMMER SESSIONS 1988

COMMON DATES FOR ALL SUMMER SESSIONS

April 1-30	Pre-registration for All Summer Sessions
June 30	Deadline for applying for August degree
June 30	Deadline for applying for July comprehensives
July 9	Comprehensive examinations

SUMMERSESSION I

JUNE 2	SUMMER SESSION I BEGINS Final registration
June 8	Late fee for registration or schedule change after this date
June 15	NO registrations or course adds accepted after this date
June 22	Last day to withdraw from a course
JUNE 30	SUMMER SESSION I FINAL EXAMINATIONS

SUMMERSESSION G

JUNE 20	SUMMERSESSION G BEGINS. Final registration
June 25	Late fee for registration or schedule change after this date
July 1	NO registrations or course adds accepted after this date
July 15	Last day to withdraw from a course
JULY 27-28	SUMMER SESSION G FINAL EXAMINATIONS

SUMMERSESSION II

JULY 6	SUMMERSESSION II BEGINS. Final registration
July 12	Late fee for registration or schedule change after this date
July 19	NO registrations or course adds accepted after this date
July 27	Last day to withdraw from a course
AUGUST 4	SUMMER SESSION II FINAL EXAMINATIONS

General Information

The University of Scranton, the oldest Catholic institution of higher education in Northeastern Pennsylvania, was founded in 1888 as Saint Thomas College. It is chartered under the laws of the Commonwealth of Pennsylvania and empowered to confer Bachelor's and Master's degrees in the Arts, Sciences, Business Administration and Education. In 1938 Saint Thomas College became the University of Scranton, while four years later the Society of Jesus acquired title from the Catholic Diocese of Scranton and administrative control from the Brothers of the Christian Schools. Thus Scranton became the twenty-fourth of the twenty-eight Jesuit colleges and universities in the United States.

Programs

Graduate study was initiated at the University of Scranton in 1950, the first master's degrees being awarded in 1952. At present, the following programs are offered by the Graduate School:

Business Administration	MBA
Biochemistry	MS, MA
Chemistry	MS, MA
Clinical Chemistry	MS, MA
General Science	MS
Eastern Christian Studies	MA
English	MA
History	MA
Human Resources Administration	MS
Individual and Group Counseling	MS
Rehabilitation Counseling	MS
Elementary School Administration	MS
Secondary School Administration	MS
Developmental Education	MS
Elementary Education	MS
Counselor Education	MS
Reading	MS
Secondary Education:	MS, MA
Business, Chemistry, English, History, General Science, Mathematics, Physics, Social Studies	

The University has certification programs approved by the Pennsylvania Department of Education in the areas listed below. Some of these may be pursued in connection with an undergraduate degree, some in connection with a graduate degree, and some may be pursued independent of any degree program.

Certification Programs

Biology	Chemistry
Communication	Elementary Principal
English	French
General Science	German
Latin	Mathematics
Physics	Physics-Mathematics
Reading Specialist	Secondary Principal
Secondary School Guidance	Social Studies
Spanish	Supervisor: Communication
Supervisor: Foreign Language	Supervisor: Mathematics
Supervisor: Reading	Supervisor: Science
Supervisor: School Guidance	Supervisor: Social Studies

A thesis is required in the M.A. programs except in English and history, which have thesis and non-thesis options. Students in the M.S. programs generally have the option of completing a scholarly paper or completing additional course work.

Generally, the master's programs require students to complete 30 to 36 semester-hour credits. The master's program in rehabilitation counseling, however, requires students to complete 48 semester-hour credits. All students in M.A. and M.S. programs must pass a comprehensive examination in their respective fields.

Objectives

As one of the family of world wide Jesuit Colleges and Universities, the University of Scranton shares with them a common educational heritage and tradition. Its principal objective, therefore, is to lead the student to understand and to inspire him/her to fulfill that complex of dignities and responsibilities which man or woman, as a person and as a member of human society, is under God.

The specific mission of the Graduate School is to provide advanced, post-baccalaureate education through high quality programs which are operated in a cost-effective manner and coordinated with the University's other programs. The Graduate School subscribes to the Policy Statement on The Master's Degree of the Council of Graduate Schools regarding the nature, requirements and evaluation of master's level work. In order to accomplish its mission, the Graduate School must provide an adequate array of programs, assure reasonable enrollment levels of qualified students, maintain and enhance program quality, operate in an efficient manner, and have the resources available to operate.

Organization and Location

The administration and supervision of the Graduate School is the responsibility of the Dean of the Graduate School. He is assisted by a Graduate Dean's Conference, an advisory committee, of which he is the chair. All questions concerning admission, candidacy and comprehensive examinations or modifications of course programs, must be submitted in writing to the Dean of the Graduate School. Decisions of the Dean of the Graduate School are final.

Requests for admission, transcript, letters to interested parties, and data concerning academic records should be made to the Graduate Office, University of Scranton.

The office of the Dean of the Graduate School is on the 2nd Floor of The Estate, located in the center of the campus (see map p. 104). The office is open daily from 8:30 a.m. to 4:30 p.m. Monday through Friday. During Fall and Spring terms it is also open Monday through Thursday evenings. FOR STUDENTS WHO WISH TO CONSULT THE DEAN THE COURTESY OF CALLING FOR AN APPOINTMENT IS RECOMMENDED.

The Graduate School is in session during the Fall and Spring semesters, the (January) Intersession, and for three Summer sessions. The calendars for each of the sessions are listed in the first part of this Catalog.

Time schedules for each course appear in the special bulletins published four times each year for Fall, Intersession, Spring, and Summer sessions. Copies of these bulletins may be obtained in the Graduate Office.



The Estate, located in the heart of the campus, is home for the Graduate School Office.

Graduate Dean's Conference

Dr. Thomas P. Hogan	<i>Chair, Dean of the Graduate School</i>
Dr. Raymond W. Champagne, Jr.	<i>Professor of History</i>
Dr. Matthew Farrell	<i>Professor of Education</i>
Dr. Joseph R. Zandarski	<i>Professor of Business Administration</i>
Dr. Maurice I. Hart, Jr.	<i>Professor of Chemistry and Chair of Department</i>
Dr. Michael Marino	<i>Professor of Education and Chair of Department</i>
Dr. Eugene A. McGinnis	<i>Professor of Physics</i>
Dr. Francis X. Jordan	<i>Associate Professor of English and Chair of Department</i>
Dr. John K. Stout	<i>Professor of Human Resources</i>

(Three graduate students, not chosen when this catalog went to press, also hold membership on the Graduate Dean's Conference.)



Recipients of the Graduate School's Outstanding Achievement Awards in 1987. Left to right, top row: Dr. John Stout (Faculty Contributions), Kim Keong Oon (Finance), Barbara Kasper Afflerbach (Human Resources Administration/Muhlenberg), Mary Terese Rutkowski (Education), Kenneth Stephens (Chemistry), Damien Elias (Marketing), Deborah Ann Roache (Counseling), Dr. Tom Hogan, Dean. Bottom row: Sudarat Arunvorngse (International Understanding), Kathleen Nagle (Humanities), Ann Marie Way (Counselor Education), Ann Marie McDonough (School Administration), Susan Famularo (Accounting), Phyllis Letson Mott (Human Resources Administration). Missing: Inn-Shei Grace Ho (Operations Management).

Admission and Registration

Application Process

All planning to enter the Graduate School should contact the Graduate Office for an application form. Completed applications, together with transcripts of undergraduate and graduate work taken elsewhere, should be in the Graduate Office one month before the applicant begins graduate study. International students should allow at least three months.

With the permission of the dean, a person is sometimes permitted to register for courses before being admitted for graduate study provided an Application for Admission has been submitted. Under no circumstances, however, will he/she be permitted to register for courses in succeeding semesters unless he/she has been formally admitted to the Graduate School. The Graduate School will not prepare a transcript, issue a grade report, or verify that one has attended the Graduate School unless it has on file an application for admission and an official transcript attesting to the attainment of the bachelor's degree from an accredited institution.

Admission Standards

The admission standards and policies of the University of Scranton are free of any limitation, specification or discrimination on the grounds of race, religion, color, national or ethnic origin, sex, age, or handicap, except as provided by law.

An applicant for admission to the Graduate School must possess a baccalaureate degree from an American college or university accredited by one of the recognized regional accrediting associations, or the equivalent from an international college or university. The ordinary standard for admission to a graduate program is an undergraduate QPI of at least 2.75 (on a 4.0 scale). Students falling below this level may submit other evidence of their ability to successfully complete a graduate program, such as grades in other postbaccalaureate courses, scores from examinations, or a record of progressively higher work responsibilities. In addition, the applicant's previous course work must show the successful completion of all prerequisites for graduate work in the program to which application has been made. Individual departments/programs may establish higher QPI requirements and/or introduce additional criteria for making the admissions decision. Consult the sections of this Catalog devoted to the specific programs for such other criteria. Final action on an application for admission to the Graduate School is taken by the Graduate Dean.

Ordinarily, the applicant must submit the following to be considered for admission to the Graduate School:

- The completed graduate application, along with the non-refundable application fee
- Official transcripts of all previous undergraduate and graduate work completed at accredited institutions (“student” copies of transcripts are not acceptable)
- Three references from persons capable of evaluating the student’s educational background and work or personal character
- Any additional material required by a particular department or program, e.g., test scores, personal interview, etc.
- International students must submit scores from TOEFL and an affidavit of financial support

Applicants may be admitted to the Graduate School in one of the following categories:

Regular Admission. Applicants are admitted under this category when they have satisfied the admissions criteria of both the Graduate School and the department or program in which they are to enroll for graduate studies.

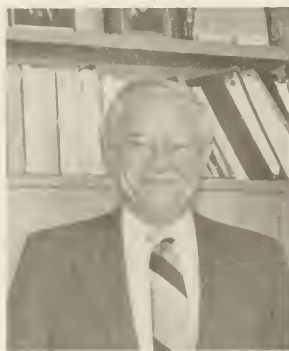
Probationary Admission. Applicants who do not meet all of the criteria for Regular Admission, but showing reasonable promise for success in graduate studies, may be accepted on a probationary basis. Students accepted on probation must consult their mentors to determine specific courses to be taken. The student may not register for more than six credits in a semester while on probationary acceptance. Students who obtain a cumulative QPI of at least 3.0 after completing the prescribed nine credits are removed from probation and continue as regularly accepted students. Students who do not obtain a cumulative QPI of at least 3.0 after completing the prescribed nine credits of coursework are subject to dismissal.

Provisional Admission. Applicants are admitted to the Graduate School under this category when their credentials are either incomplete at the time of application or when there is evidence of a deficiency in their academic preparation for studies in their chosen graduate program. Incomplete credentials may result because the application was submitted prior to the conferring of the baccalaureate degree, essential undergraduate grades are not yet available, or advanced test scores have not yet been reported, et cetera. An academic deficiency in preparatory studies would be determined by the requirements of the separate department or program in which the applicant seeks admission.

Special Admission. Applicants who are admitted to the Graduate School under this category are non-degree students. They are admitted to pursue studies for certification, transfer of credit, self-improvement, master equivalency, or auditing. The continuance of graduate studies under this category is governed by the grade policy of the Graduate School. A qualified undergraduate student who has been admitted to an accelerated course of study that permits him or her to earn graduate credit is accepted into the Graduate School as a special student under this category. Acceptance as a degree student is contingent upon the reception of the baccalaureate degree in addition to the successful fulfillment of all other requirements for admission.

International Students

Applicants who are citizens of non-English speaking countries are required to obtain a score of at least 500 on the Test of English as a Foreign Language (TOEFL) as one criterion for admission to the Graduate School. In some cases when an applicant's TOEFL score is under 500, but all other criteria for admission have been met, the applicant may be granted a conditional acceptance with the provision that he/she achieve a TOEFL score of at least 500 before beginning classes. International students are also required to submit a Certification of Finances form. All application materials for international students should be available for review in the Graduate Office a minimum of three months before the term in which the student wishes to begin study.



*Mr. Arthur Bugb,
Director of International Student Affairs.*

Ordinarily, international students are limited to six credits of work in their initial semester at the University and are required to participate in an English tutorial; there is no fee for this tutorial.

Registration For Courses

Registration for each semester will take place according to the schedules listed in the special bulletins which are issued prior to each semester. Mail registration is permitted after the initial acceptance and registration. Registration will be with the approval of a student's mentor or chairman of the department. *Students who wish to cancel their registration must give written notice to the Graduate School Office. Please see details under Dropping and Withdrawing from a Course.*

In order to facilitate registration for old and new students a period of pre-registration is held each semester. This will extend over a period of about 10 days and all graduate students taking courses during the current semester should register between the announced dates.

The University reserves the right to withdraw a course from its schedule in which less than ten students have been registered.

Undergraduate students may register for certain graduate courses. They must, however, have the approval of the appropriate department chair and the appropriate deans.

Orientations for New Graduate Students

Orientations for new graduate students, covering Graduate School policies and procedures, library and computer facilities, etc., are scheduled as listed below. Students beginning in Summer '87 or Fall '87 are expected to attend the Fall Orientation; students beginning in Intersession '88 or Spring '88 are expected to attend the Spring Orientation.

FALL ORIENTATION Sunday, September 20, 1987, 1-5 PM
Pocono Northeast Room, Gunster Center

SPRING ORIENTATION Sunday, February 21, 1988, 1-5 PM
Royals Room, Byron Rec Center



The Hon. James J. Haggerty, Secretary of the Commonwealth of Pennsylvania, Principal Speaker at the 1987 Commencement for the Graduate School

Academic Regulations

Mentors

From the inception of graduate study, students will be assigned a mentor to help them formulate a program of studies and supervise their work. It is suggested that students work closely with their mentors and that the courtesy of arranging appointments in advance with faculty members so designated be observed by all students.

Grading

Achievement of graduate students is recorded as follows: A: excellent (4 quality points for each semester hour of credit); B + : superior (3.5 quality points for each semester hour of credit); B: good (3 quality points for each semester hour of credit); C: fair but passing (2 quality points for each semester hour of credit); F: failure (0 quality points for each semester hour of credit).

Other grade symbols used are:

“S” indicates pass. Individual departments are authorized the use of S (pass) or U (fail) under certain circumstances. Students in the Department of Chemistry, Education and Human Resources should consult their Department Chairman and/or mentor for details;

“IP” indicates a student is registered for a thesis or an approved research project which has not been completed at the end of a given semester but for which satisfactory progress is being made. This grade is temporary and once the work has been completed it must be converted to one of the permanent grade symbols.

“W” indicates that a student has withdrawn from a course.

“T” indicates postponement of the completion of a course. It is given at the discretion of the instructor to a student who is doing satisfactory work but who has not completed all of the course requirements at the end of a given semester. Given such an extension, the student must complete all the required work, unless otherwise agreed, before the end of the next regular semester. Failure to complete the necessary work within the stipulated time results in automatic conversion of the “Incomplete” to the permanent grade of F.

“Audit” indicates that a student has taken a course for which permission has been granted without a grade being awarded. Students must secure such authorization prior to the start of a course.

The symbol “NG” is a temporary grade citation issued by the Dean on grade reports when a faculty member fails to meet the announced deadline for the submission of student final grade reports. Such temporary grade citations will be changed, in due course, to permanent grade symbols when issued by the professor(s) charged with that responsibility.

Regular attendance at class is considered a requisite for successful completion of a course.

Standards of Progress

All students must have a cumulative QPI of at least 3.0 to graduate with a master’s degree. In addition, all students must maintain a cumulative QPI of at least 3.0 to remain in good academic standing. If a student’s cumulative QPI drops below 3.0, he/she is placed on academic probation. The student is allowed to remain on academic probation for a maximum of two semesters of coursework. The student’s performance is reviewed by the mentor and the Dean of the Graduate School at the end of the two probationary semesters. If the student’s cumulative QPI has increased to at least 3.0, the student is removed from academic probation. Otherwise, the student is subject to dismissal.

Time Limit

All graduate work for a degree, including the thesis, must be completed within six consecutive years. Time spent in the armed forces is not included in the six year period. Extension of this time restriction may be granted for valid reasons at the discretion of the Dean.

Transfer Of Credits

Transfer of credits to graduate programs at the University of Scranton is governed by the following policies:

1. That such credits were acquired in residence at the other institution. Extension credits are, ordinarily, not acceptable.
2. That only six (6) credits maximum be transferred.
3. That courses to be transferred parallel courses here and mesh with the student’s program at the University of Scranton.
4. That these credits were taken within six (6) years of the student’s admission.
5. That a grade of B or better was acquired in these courses and that an official transcript is submitted for work at other institutions, including the course description of the credits in question.

Students matriculated at the University of Scranton may follow courses at other approved graduate schools, and transfer credits only with the previous permission of their mentor and the Dean of the Graduate School.

Comprehensive Examinations

Students in Master of Arts and Master of Science programs must pass a comprehensive examination in their respective fields of study. The examination may be oral, written, or both. Comprehensive examinations are given on dates published in the academic calendar in this Catalog (see pages 6-7). Students must apply to take the comprehensive exam by the deadlines given in the academic calendar, using the Application for Comprehensive Examination form available in the Graduate Office. Eligibility for the examination is determined by the Director of the student's program. Students should consult their mentors regarding the nature of the examination in their field. Students failing the comprehensive examination twice will not be considered for the master's degree.

Thesis

Candidates for the Master of Arts degree in programs in the Departments of Chemistry and Education are required to complete a thesis. Students in English, History, and Eastern Christian Studies may opt to do a thesis. A thesis is completed under the active supervision of the candidate's mentor and approved by one additional reader. In case of doubt, a third reader may be required. In the preparation of the thesis, style regulations prescribed by the Graduate School will be observed. Two copies of the accepted thesis must be submitted to the Graduate School Office on or before the date indicated in the University calendar.

Dropping, Withdrawing From or Adding A Course

Students are alerted that they may drop a course during the time in which they are entitled to a refund of any amount. (See "Refund Schedule" below.) TO DROP A COURSE STUDENTS MUST COMPLETE A "SCHEDULE CHANGE" FORM, WHICH IS AVAILABLE IN THE GRADUATE OFFICE. THIS FORM MUST BE COMPLETED AND RETURNED TO THE GRADUATE OFFICE WITHIN THE TIME IN WHICH STUDENTS ARE ENTITLED TO A REFUND. The drop will be treated as if the student never registered for the course.

After the time in which a student is entitled to a refund has elapsed, students will be permitted to withdraw from a course.

TO WITHDRAW FROM A COURSE STUDENTS MUST COMPLETE A "SCHEDULE CHANGE" FORM AND RETURN IT TO THE GRADUATE OFFICE. The student's transcript will contain the course number and title, along with a "W" for "withdraw".

See the academic calendar for deadlines for withdrawing.

Note: There is a special fee for any course-related schedule change submitted after the first week of each term.

Summary

The following procedures are to be followed by students working for the advanced degree:

- 1) File an application for admission to graduate study, official transcripts of undergraduate preparation and of graduate credits taken elsewhere, supporting recommendations, and test scores (if required).
- 2) Meet with their mentor to organize a program of studies.
- 3) Complete core, specific major and elective courses.
- 4) Complete the required thesis or scholarly paper, if applicable.
- 5) Successfully pass the required comprehensive examination.
- 6) Make formal application to the Graduate Office for the degree.



Special Note For Students

Students, please note carefully that it is your responsibility to be familiar with the academic regulations, fee structures, and other policies contained in this catalog.

Changes are effected from time to time in the general regulations and in the academic requirements. There are established procedures for making changes, procedures which protect the institution's integrity and the individual student's interest and welfare. A curriculum or graduation requirement, when altered, is not made retroactive unless the alteration is to the student's advantage and can be accommodated within the span of years normally required for graduation. When the actions of a student are judged by competent authority, using established procedure, to be detrimental to the interests of the University community, that person may be required to withdraw from the University.

List of Commonly Used Forms

This is a handy reference list of forms commonly used by graduate students. Certain less commonly used forms are not included here. The commonly used forms are readily available in the Graduate Office as well as in most department offices and from Mentors.

APPLICATION FOR ADMISSION: Use this form to apply for admission to the Graduate School.

GRADUATE REGISTRATION: Use this form to register for courses, either through pre-registration or final registration.

SCHEDULE CHANGE: Use this form to change a Registration form already submitted, e.g., to withdraw from, drop or add a course.

READER: Use this form, along with the Registration form, to register for a Reader course.

GRADUATE CREDIT TRANSFER RECOMMENDATION: Use this form to request review of graduate credits taken elsewhere for transfer to your program here.

APPLICATION FOR COMPREHENSIVE EXAMINATION: Use this form when you are ready to take comprehensives. *

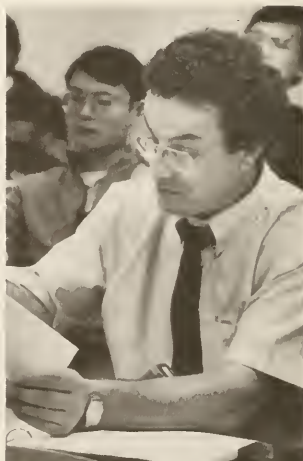
APPLICATION FOR DEGREE: Submit this form in the term when you expect to complete all degree requirements. *

REQUEST FOR TRANSCRIPT: Use this form to request an official copy of your graduate transcript.

PROGRAM CHANGE: Use this form if you have already been admitted to one program but wish to be admitted to another; this includes changes between MA and MS programs within the same department.

APPLICATION FOR GRADUATE ASSISTANTSHIP: Complete and submit this form to the Graduate Office if you wish to be considered for a graduate assistantship in any department.

* See Calendar at front of Catalog for deadlines.



Resources

Alumni Memorial Library

The Library holds 200,000 volumes, 62,000 pieces of microfilm and approximately 1,700 current periodical subscriptions. In addition, the Media Resources Center, located in the Gallery, holds over 5,000 non-print items, including video cassettes, records, films, and filmstrips.

The Library is open on generous schedules which vary somewhat by day of the week and part of the term. Students should check bulletin boards for listings of Library hours.

The NEPBC UNION LIST OF SERIALS lists the periodical holdings of area Libraries with whom the University has reciprocal borrowing agreements. University of Scranton students may borrow directly from the following Libraries: Marywood, King's, Wilkes, College Misericordia, Lackawanna and Keystone Junior Colleges. Interlibrary Loans may also be requested from these colleges. Interlibrary Loan requests include books, at no charge, and photocopies, at \$1.50 per article charge.

Computer Database Services. The Library accesses a variety of databases through such services as DIALOG, DOW JONES, WILSONLINE, and VU-TEXT. Students may request bibliographies, reports, directory and statistical information tailored to their needs. The average online time is 10 minutes; the average cost is \$10-\$25. Charges depend upon the database accessed and length of time connected.

Copying Services. Three photocopy machines for public use are located in the basement. The Library uses a Vendacard system. The first purchase of the card is \$1.00; for University students and alumni this purchase includes the card and 10 copies, at 5 cents a copy. This, as well as other Library services are extended to students at a subsidized rate. Persons unaffiliated with the University pay 10 cents a copy. Additional copies may be purchased at the SECURITY DESK and are encoded onto the card which need only be purchased once. All purchases must be in one dollar increments.

Microfilm Reading Area. In addition to newspapers and periodicals, the University has several other resources in microformats. These include NEWSBANK, ERIC, telephone directories, college catalogs, and historical documents. Equipment for reading and printing these materials have diagramatic instructions on them.

Science Reading Room. The Science Reading Room, located in the basement, contains current science periodicals, science reference materials and science books.

Counseling And Career Services

The University's counseling and placement services are available to graduate students. The Counseling Center is located in the Gallery, 3rd floor (Tel. 961-7620). All offices are open on weekdays from 8:30 a.m. to 4:30 p.m. and at other times only by appointment.

In addition, there is a Career Services Office to serve students anticipating further graduate work, and for assistance in securing employment placement. Usually, special hours are scheduled to accommodate Graduate School students. Kindly contact the Career Services Office (Gallery, 2nd Floor, Tel. 961-7640) for these special periods.

Assistantships, Financial Aid

Approximately 40 teaching fellowships, teaching assistantships, and research assistantships are available. The primary responsibility of teaching fellows is to teach courses or laboratories; the primary responsibility of teaching assistants is to assist a professor in teaching courses and/or laboratories; and the primary responsibility of research assistants is to help a professor do research. For students in the rehabilitation counseling program, traineeships are also available. Information and application forms for the fellowships and assistantships may be obtained from the Dean of the Graduate School. Information and application forms for the rehabilitation counseling traineeships are available from the chairman of the Department of Human Resources.

Resident assistantships are offered to single male and female graduate students, whereby room and board in the university's dormitories are provided. Applications may be obtained from the Student Personnel Office. A limited number of campus jobs sponsored by the federally-funded work-study program are available. Inquiries regarding the work-study program should be directed to the Financial Aid Office.

Computer Facilities

IBM MAINFRAME — LOCATION: ST. THOMAS HALL, ROOM T107. The hub of administrative computing hardware is an IBM 4381-P13 processor with 16 megabytes of main memory. The 4381-P13 is configured with one 3380 AD4 disk unit and one 3380 BE4 disk unit, totaling 7.5 gigabytes of disk storage, two 3420 MOD 8 tape drives, one 3705 communications controller, four 3274 41D and five 3274 61C communications controllers. The communications controllers handle a network of terminals and printers totaling 180 stations. The main printer on the system is a 4245 MOD 20, 2,000 LPM printer. 3287-2 and 3268 printers are strategically placed around

campus. VM/SP is the operating system. PROFS (Professional Office System) is utilized as an electronic mail and calendar system. SQL/DS was installed in March 1986 as the Data Base Management System. COBOL and FORTRAN are the predominantly used programming languages.

VAX MINICOMPUTER — LOCATION: ST. THOMAS HALL, ROOM T107. The academic community is served by a central computer system located in St. Thomas, Room T107: a VAX 11/785 with 32 megabytes of main memory. The VAX utilizes four RA81 disk drives totaling 2 gigabytes of disk storage, two TU78 tape drives, and 88 communications lines which serve St. Thomas Hall, O'Hara Hall, Loyola Hall, and remote users via dial-up. Terminal communications are handled via Ethernet terminal servers and cabling installed in August 1986. The main printers on the system include an LP26 600 LPM printer and an LN01 12 PPM laser printer. Remote printer stations are also located in St. Thomas Hall, Room T110 and O'Hara Hall, Room 0008. A Hewlett-Packard 7550A plotter is also located in St. Thomas Hall, Room T110. VMS is the operating system. The data base management system ORACLE is installed along with a wide variety of specialized software packages including: SPSS-X, SPSS-Graphics, Minitab, Lindo, and IFPS. BASIC, FORTRAN, PASCAL, and COBOL are widely used. The VAX is linked to a worldwide network of colleges and universities via BITNET, allowing faculty and academic administrators electronic mail communications with colleagues at over 300 institutions.

IBM PC LAB — LOCATION: ST. THOMAS HALL, ROOM T102. This instructional PC lab is equipped with 17 IBM PC's, a Hewlett-Packard LaserJet printer, a dot matrix printer, and a color overhead projection system which is used for displaying the screen of the instructor's PC unit. The PCs in this lab are connected via a Novell local area network which is served by an IBM PC-AT file server equipped with one 30 megabyte hard disk. Software residing on the network includes WordPerfect, WordStar, Lotus 1-2-3, and DBASE III PLUS. Instructors may reserve this facility for class use through Information Support Services. The facility is open for general student use when it is not reserved. Hours are posted outside of the lab.

IBM PC LAB — LOCATION: ST. THOMAS HALL, ROOM T103. This PC lab is intended for general student use. It is equipped with 14 IBM PC's and three dot matrix printer stations. Software which may be signed out at the booth outside of Room T101 includes WordPerfect, WordStar, Lotus 1-2-3, and dBASE III Plus. Hours are posted.

IBM PC LAB — LOCATION: ST. THOMAS HALL, ROOM T162. The Computer Science IBM PC lab is configured with ten IBM PC's with NEC multi-sync monitors and enhanced graphics cards operating on a Novell network. The file server of the network is an IBM PC-AT with 120 megabytes of disk storage. A dot matrix printer, a Hewlett-Packard LaserJet printer, and a Hewlett-Packard 7475A plotter round out the total configuration. Software resident on the network includes WordPerfect, WordStar, Lotus 1-2-3, and dBASE III Plus. Hours are posted.

CAD/CAM LAB — LOCATION: ST. THOMAS HALL, ROOM T170. The CAD/CAM Lab was established to meet the instructional demands of CAD/CAM courses in the Physics/EE program and to provide a facility for training of architects and engineers in CAD/CAM concepts as part of the University's responsibility as an authorized AutoCAD training center. The lab is outfitted with a mixture of IBM and AT&T personal computers. A majority of the AT&T computers were acquired as part of a \$200,000 direct equipment grant from AT&T. The contents of the lab is as follows: 6 AT&T 6300 Plus PC's with 30 megabyte hard disks, 6 AT&T 6300 PC's with 20 megabyte hard disks, 5 IBM PC's with 30 megabyte hard disks, 5 NEC multi-sync color monitors with Quadram EGA boards, 5 Summa Graphics tablets, a Hewlett-Packard 7550A plotter, and a dot matrix printer. The lab is also equipped with a Sony multi-scan video projection system which can display output from high resolution monitors.

IBM PC LAB — LOCATION: ST. THOMAS HALL, ROOM T464. The Writing Center is equipped with nine IBM PC's and two dot matrix printers. These PC's are intended for general use when class is not in session. Software which may be signed out from the student assistant includes WordPerfect and WordStar. Hours are posted.

IBM PC LAB — LOCATION: O'HARA HALL, ROOM 0205. The Psychology IBM PC Lab is equipped with 4 IBM PC's operating on a Novell network. The file server of the network is an IBM PC-AT with two 20 megabyte hard disks. Output devices include a dot matrix printer and a Hewlett-Packard LaserJet printer. Software on the network includes WordPerfect, WordStar, and Lotus 1-2-3. Hours are posted.

IBM PC LAB — LOCATION: O'HARA HALL, ROOM 0508. The O'Hara Hall IBM PC lab is equipped with 15 IBM PC's operating on a Novell network. The file server of the network is an IBM PC-AT with two 30 megabyte hard disks. Output devices include a dot matrix printer, a Hewlett-Packard LaserJet printer, and a Hewlett-Packard 7475A plotter. There is a one-color overhead projection system which displays the screen of the instructor's PC unit. Software on the network includes WordPerfect, WordStar, Lotus 1-2-3, and dBASE III Plus. This is an instructional facility which may be reserved for classroom demonstration. Reservations are handled through the Office of the Dean of the School of Management. Students may use this facility for general purposes when it is not reserved. Hours are posted.

IBM PC LAB — LOCATION: REDINGTON HALL The Redington Hall IBM PC lab contains ten IBM PC's and two dot matrix printers for general student use. Software available includes WordPerfect, WordStar, Lotus 1-2-3, and Turbo Pascal. Hours are posted.

VAX TERMINAL LAB — LOCATION: ST. THOMAS HALL, ROOM T110. The main VAX terminal room is equipped with 28 VT100 and VT100-compatible terminals and 4 graphics terminals which are connected to the DEC VAX-11/785. An AT&T high speed dot matrix printer and a Hewlett-Packard 7550A plotter are available for output. Hours are posted.

VAX TERMINAL LAB — LOCATION: O'HARA HALL, ROOM 0008. The O'Hara Hall terminal room is configured with nine VT100-compatible terminals and a Mannesmann-Tally printer. Hours are posted.

Research Centers

The University has a number of research centers which may be of interest to graduate students in selected areas of study. Among these are the following:

Center for Economic Education. The University's Center for Economic Education is sponsored by the Pennsylvania Council on Economic Education and is affiliated with the National Joint Council on Economic Education. The Center helps local schools to establish programs in economic education and maintains an extensive collection of materials on this subject. Director: Dr. Michael Marino.

Center for Book Research. The Center for Book Research carries out a wide variety of studies on books and the publishing industry. It serves as the base for publication of *Book Industry Trends: A Compilation of Book Industry Statistics* and the *Book Research Quarterly*. Director: Mr. John Dessauer.

Center for Eastern Christian Studies. The Center for Eastern Christian Studies sponsors a variety of activities related to "Eastern" churches and East-West dialog in the religious sphere. Director: Fr. John Levko, S.J.

CAD/CAM Resource Center. The CAD/CAM Resource Center assists local businesses with the training and utilization of computer-aided design and computer-aided manufacturing. For the past several years the Center has had an active program supported by the Ben Franklin Partnership of the Commonwealth of Pennsylvania. Director: Dr. Joseph Connolly.

Honor Societies

Chapter organizations of several national honor societies are maintained at the University of Scranton campus. Graduate students can be selected for membership in the following: Alpha Sigma Nu, international Jesuit honor society; Phi Delta Kappa, education; Phi Alpha Theta, national honor society in history; Delta Mu Delta, business administration honor society; Omicron Delta Epsilon, national honor society in economics and Phi Lambda Upsilon, honorary chemical society. Contact the chapter officers for further information regarding membership.

Physical Education/Recreation Complex

Graduate students may use the Long Center and Byron Recreation Complex on a per semester fee basis. Facilities are provided for indoor tennis and racquetball, basketball, swimming, weight room, sauna, etc.

Tuition and Fees

Tuition (per semester hour of credit)	\$185.00
MBA Tuition (per semester hour of credit)	\$190.00

Fees—

Application Fee	15.00
Library Fee (per semester)	20.00
Parking Fee (per semester)	10.00
Late Registration	20.00
Prerequisite Challenge Examination Fee (per credit)	15.00
Binding of Thesis	25.00
Graduation Fee	60.00
Recreation Center (per semester)	50.00
Reader Courses (per credit)	15.00
Transcripts	
Current Students	2.00
Others	4.00
Schedule change fee (after 1st week of term)	15.00

Unless explicitly stated otherwise, tuition and fees are for one semester and are payable at registration. Tuition charges are made for all credits awarded. The Graduation Fee is payable, whether or not a student attends commencement exercises.

Students will not be permitted to receive any degree, certificate, or transcript of record until their financial accounts with the University have been satisfactorily settled.

The University will adhere rigidly to the following “Schedule of Refunds.” Fees are not refundable.

Schedule Of Refunds

Fall/Spring Semesters

Before the first day of a class and up to and including

9 calendar days after a class begins	100%
To and including 16 calendar days after a class has begun	75%
To and including 23 calendar days after a class has begun	50%
To and including 31 calendar days after a class has begun	25%
Beyond 31 days after a class has begun	No Refund

Summer And Intersession

End of First Week	100%
End of Second Week	25%
Beyond Second Week	No Refund

Department of Education

Dr. Michael Marino, Chair

Goals Of The Department Of Education

Through its various programs, the Department of Education endeavors to contribute to the improvement of education by preparing informed, inquiring, and skilled professionals for positions in the educational community.

More specifically, the Department aims to provide persons with a breadth and depth of knowledge and understanding in their specialized areas of professional practice and to provide training to insure competence in the specific area of functioning. To this end, individual program competencies have been developed.

Additionally, the Department endeavors to offer opportunities for continuing professional growth to practicing educators, to assist in the educational growth and development of the community served by the University, and to foster the advancement of knowledge through research in education.

Departmental Requirements

The applicant for admission must possess the baccalaureate degree from an accredited college or university and provide the Departmental Committee on Admissions with evidence of satisfactory undergraduate preparation to achieve graduate work of good quality. The academic and personal traits of each applicant in relation to his/her potential for satisfactory achievement in graduate study will also be considered.

With the exception of counselor education majors, the applicant will have completed the ordinary state requirements for professional certification; of those seeking master's degrees, a B average in undergraduate Education courses is expected.

Specific requirements for entrance into certain degree programs are in addition to the admissions requirements to graduate study in Education at the University. These are described in the sections on the various programs.

The Master Of Arts Degree

Thirty semester hours of credit are needed for the M.A. degree. Nine of these will be in Education 202, 205, 206, or 207. Of the remaining twenty-one, three credits are allowed for the successful completion of a thesis, a requirement of the Master of Arts degree.

The thesis required for the M.A. degree may be a research paper of suitable dimensions, a critical report of certain procedures or sectors of knowledge, or a scholarly biographical work on the Master's level. The student, with the permission of the mentor, will register for the Research Seminar (Educ. 300) while working on his/her thesis.

The Master Of Science Degree

Thirty semester hours or more of course credit are required for the M.S. degree. For the M.S. there is no thesis requirement, but a professional contribution is required. Some programs may permit additional course credits in lieu of professional contribution.

Before registration, the graduate student will meet with his/her advisor for the selection of a concentration of courses and the approval of his/her program of studies. About one half of the course requirements for the Secondary Education: Correlated program will be in a subject-matter field. While the candidate's courses within a program should possess flexibility, certain essential courses are required. The mentor may make substitutions in order to round out a sound program of courses.

The Comprehensive Examination

A comprehensive examination, as prescribed by the department, is required of all candidates for a degree in education. This examination may be written, oral, or both.

Certification

All certification candidates must exhibit pre-certification competency of PL 94-142 before being recommended for the certification they seek.

A student who is enrolled in any certification program at the University and is recommended to be dropped from the program or refused University endorsement for certification may appeal the decision. The appeal is made through the Chair of the Department to a Committee consisting of three persons: the Graduate Dean, the Department Chair and a person from the faculty selected by the Director of the Certification Program in which the student is enrolled.

Approval of the mentor and certifying officer must be received before a course may be substituted for any course required in the specified certification program. Courses to be transferred from another college for certification purposes must also receive approval of the mentor and certifying officer before the courses are accepted for program requirements.

Secondary Education

Dr. Matthew C. Farrell, Director

Objective: To prepare the secondary school teacher in-service for more effective instruction. The program calls for a combination of course work in Education and in a content field. Content specializations are available in the following fields:

Business	Chemistry	English
General Science	History	Mathematics
Physics	Social Studies	

With the approval of the mentor, an interdisciplinary program of studies may be pursued.

Requirements

Core Courses in Education: 9 credits

Credits

Ed. 202	Educational Research and Literature	3
Ed. 205	Phil. and Hist. Bases of Education I	3
Ed. 206	Phil. and Hist. Bases of Education II	3
or		
Ed. 207	Sociology of Education	3

Specialized Requirements in Education: 9 - 12 credits

Ed. 233	Curriculum Theory and Development	3
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At least one of the following:

Ed. 231	Improving Instruction	3
Ed. 290	Instruct. Materials for Teaching Reading	3
Ed. 295	Reading in the Content Areas	3

At least one of the following:

Ed. 201	Educational Psychology	3
Ed. 241	Group Dynamics	3
Ed. 274	Developmental Psychology	3
Ed. 275	Psychology of Adjustment	3

Content Area Electives: 15 Credits

Fifteen (15) credits of graduate course work in the content area in which the student is specializing.

Degree Requirements

Master of Arts: 30 credits, comprehensive exam, and a thesis. Master of Science: 33 credits, comprehensive exam, and scholarly paper OR 36 credits and a comprehensive exam. The credits taken must meet the requirements specified above AND be approved by the student's mentor.

Counselor Education

Dr. James J. Cunningham, Director

Objectives: (1) The preparation of secondary school counselors.
(2) The preparation of professionals for helping roles in other settings.

Certification as a School Counselor:

Students who desire to apply for the Pennsylvania school counselor's certificate must follow the certificate sequence as approved by their advisors and receive the master's degree.

Only students of proven competency who have successfully completed the certificate sequence and degree requirements will be endorsed for certification by the University. Supervised counseling experience with secondary-school students is required for certification.

Students who are not interested in secondary school counseling may, if approved by their mentor, substitute certain other courses directed toward other objectives.

Admission Requirements:

These requirements for entrance into the Counselor Education major are in addition to the entrance requirements of the Graduate School:

- (1) Recommendations of three persons capable of evaluating the candidate's personal qualities as well as academic potential.
- (2) A written self-estimate of the candidate's qualifications for the position of counselor.
- (3) A personal interview.

Master's Degree:

Thirty-six semester hours of credit are required for the Master's degree. Mentors will advise students regarding appropriate course selections, based on assessment of student credentials and professional objectives.

A student must also satisfactorily complete the comprehensive examination and Scholarly Paper requirements.

Supervisory Certification

The University also offers an approved program for those students who desire to become certified in School Guidance Services. (Please consult details under Supervision section.)

Course Requirements

Psychological and Sociological

Foundations Sequence:

Credits

Ed. 201	Educational Psychology	3
Ed. 274	Developmental Psychology	3*
Ed. 275	Psychology of Adjustment	3
Ed. 207	Sociology of Education	3
Ed. 246	Vocational Development	3*

Counseling Sequence:

Ed. 240	Theories of Counseling	3*
Ed. 241	Group Dynamics	3*
Ed. 242	Case Management & Interviewing	3*
Ed. 242.2	Family Counseling	3
Ed. 242.3	Behavioral Counseling	3
Ed. 254	Use of Tests in Counseling	3*
Ed. 244.1	Supervised Counseling Experience I	3*
Ed. 244.2	Supervised Counseling Experience II	3

Consultation Sequence: (3 credits required)

Ed. 242.1	Utilization of Community Resources	3
Ed. 243	Current Issues in Counseling and Guidance	3

Research Sequence:

Ed. 202	Educational Research and Literature	3*
Ed. 245	Research Seminar in Counseling	3

¹Ed. 242.2

or 242.3 May be substituted for Education 275 with mentor's permission.

Ed. 245 May be substituted for scholarly paper with mentor's permission.

*Required courses

Elementary Education

Dr. Michael Marino, Director

Objective: To prepare the elementary school teacher in-service for more effective instruction of students, and to help him or her acquire the skills and values to become a self-renewing teacher.

Courses

Foundation Requirements (15 credits) Credits

(Each of the following three courses)

Ed. 202	Educational Research and Literature	3
Ed. 231	Improving Instruction	3
Ed. 233	Curriculum Theory and Development	3

(One of the following three courses)

Ed. 201	Educational Psychology	3
Ed. 205	Phil. and Hist. Bases of Education I	3
Ed. 206	Phil. and Hist. Bases of Education II	3

(One of the following Reading courses)

Ed. 290	Inst. Materials for Teaching Reading	3
Ed. 291	Foundations of Reading Instruction	3
Ed. 292	Psycholinguistic Implications for the Teaching of Reading	3
Ed. 297	Classroom Diagnosis of Reading Problems	3

Electives

Any of the courses not used in meeting Foundation requirements may be used as an elective, in addition to the following courses:

Ed. 230	Current Issues in Elementary Education	3
Ed. 232	Personalizing Education	3
Ed. 281	Individualizing Instruction	3
Ed. 282	Teaching the Gifted Child	3
Ed. 283	Children's Literature	3
Ed. 284	Seminar in the Language Arts	3
Ed. 285	Workshop in Parent Involvement	3
Ed. 286	Topics in Elem. School Math.	3
Ed. 287	Topics in Elem. Social Studies	3
Ed. 288	Topics in Elem. School Science	3
Ed. 289	Workshop in Education	3

A student may select courses other than those listed above provided that they are part of an integrated program and the student has permission from his or her mentor.

Degree Requirements

Master of Science — Two Options

A. The student completes thirty credits, passes the comprehensive examination and completes a scholarly paper.

B. The student completes thirty-six credits, passes the comprehensive examination but is not required to do a scholarly paper.



*Dr. Michael Marino, Chairman, Department of Education
& Director, Elementary Education Program.*

Administration (Elementary and Secondary)

Dr. Thomas W. Gerrity, Director

Objectives

The preparation of elementary and secondary school principals.

Admission Requirements

These requirements for admission to the Administration program are in addition to the requirements of the Graduate School.

1. Recommendations from three persons capable of evaluating the candidate's personal qualities as well as academic potential.
2. A written self-estimate of the candidate's qualifications for the position of principal.
3. A personal interview.

The Master's Degree

The student will be recommended for a Master of Science degree in *either* Elementary School Administration or Secondary School Administration after satisfactory completion of required courses, as approved by the mentor, passed a Comprehensive Examination in School Administration, and filed an approved scholarly paper or a professional project sixty days before graduation. With the mentor's permission, the student may substitute a prescribed three-credit course for the scholarly paper or professional project.

Normally thirty-six (36) credits are required for the Master of Science degree, and forty-eight (48) credits for certification as an Elementary School Principal or a Secondary School Principal.

Courses are prescribed from the following list; other courses, including electives, may be substituted in consultation with the mentor.



*Dr. John Gay, Dean
College of Health, Education
& Human Resources*

<i>Course</i>	<i>Administrative Sequence:</i>	<i>Credits</i>
*Ed. 221	Educational Administration	3
*Ed. 222.1	Problems in School Administration and Supervision	3-6
Ed. 222.2	Public Relations for Educators	3
Ed. 222.3	Personnel Management for Educators	3
*Ed. 222.4	School Finance	3
Ed. 222.5	School Plant Management	3
Ed. 222.6	School and Community Relations	3
**Ed. 222.7	Practicum in School Administration	3-6
**Ed. 222.8	School Law	3
Ed. 222.9	Seminar in Advanced School Law	3
Ed. 223	Educational Management	3
*Ed. 224	The Elementary School Principal as Administrator	3
*Ed. 225	The Secondary School Principal as Administrator	3
Ed. 226	Administration & Organization of the Middle School	3
*Ed. 237	Principles and Practices of Supervision	3
Ed. 238	Practicum in Supervision	3
<i>Curriculum and Instruction Sequence:</i>		
Ed. 231	Improving Instruction	3
*Ed. 233	Curriculum Theory and Development	3
<i>Psychological and Behavioral Sequence (any one)*:</i>		
Ed. 241	Group Dynamics	3
IGC 335	Stress Management	3
Ed. 274	Developmental Psychology	3
Ed. 275	Psychology of Adjustment	3
<i>Philosophical and Sociological Sequence (any one)*:</i>		
Ed. 205	Philosophical and Historical Bases of Education I	3
Ed. 206	Philosophical and Historical Bases of Education II	3
Ed. 207	Sociology of Education	3
<i>Research Sequence*:</i>		
Ed. 202	Educational Research and Literature	3

*Normally required for degree and certification.

**Normally required for certification only.

***One semester of Ed. 222.7 is required for degree; a second semester of Ed. 222.7 is normally required for certification.

Note: In certain circumstances, Ed. 222.9 may be substituted for Ed. 222.8 and Ed. 222.1 may be substituted for another course.

Reading

Dr. Raymond L. Kimble, Director
Master's Degree Program

Candidates for the Master of Science degree in Reading may select the Professional Contribution option or the Additional Credit option to fulfill the degree requirements.

Professional Contribution Option: 30 credits

- The Reading Sequence: 18 credits
- The research course, Ed. 202: 3 credits
- Elective courses (with mentor's approval): 9 credits
- Written comprehensive examination
- An approved professional contribution

Additional Credit Option: 36 credits

- The Reading Sequence: 18 credits
- The research course, Ed. 202: 3 credits
- Elective courses (with mentor's approval): 15 credits
- Written comprehensive examination

Under either option, the student may obtain Certification as a Reading Specialist before attaining the degree by completing the Reading Sequence and passing the comprehensive examination.

Certification Program In Reading

To be recommended for the Reading Specialist Certificate the student must complete the Reading Sequence and pass the comprehensive examination. The student must demonstrate the competency expected from completing the Reading Sequence. Appropriate additions, deletions, or substitutions may be made as determined by an evaluation of the student's credentials.

Reading Supervisor

The University offers an approved program for becoming certified as a Reading Supervisor in Pennsylvania. Please see description in Supervision section of this Catalog.

<i>The Reading Sequence</i>		<i>Credits</i>
Ed. 291	Foundations of Reading	3
Ed. 292	Psycholinguistic Implications for the Teaching of Reading	3
Ed. 293	Clinical Diagnosis of Reading Disabilities	3
Ed. 294	Instructional Practicum	3
Ed. 295	Reading in the Content Areas	3
Ed. 296	Organization and Operation of Reading Programs	3

Other Courses

Ed. 201	Educational Psychology	3
Ed. 202	Educational Research and Literature	3*
Ed. 231	Improving Instruction	3
Ed. 233	Curriculum Theory and Development	3
Ed. 274	Developmental Psychology	3
Ed. 284	Seminar in Language Arts	3
Ed. 290	Instructional Materials and Strategies for the Teaching of Reading	3
Ed. 297	Classroom Diagnosis of Reading Problems	3
Ed. 299	The Teaching of Study Skills	3

Other courses may be selected with the mentor's approval.

*Required for the master's degree, under either Option.

Developmental Education

Dr. Raymond L. Kimble, Director

Objectives

To prepare personnel for service in secondary and post-secondary educational institutions in developing and operating programs in developmental/remedial/basic skills education.

Requirements

The Master of Science degree requires 36 credits of course work, as outlined below, and the successful completion of a comprehensive examination.

Foundation Courses: 9 credits required

Credits

Ed. 201	Educational Psychology	3
Ed. 202	Educational Research and Literature	3
Ed. 203	Educational Tests and Measurements	3

Speciality Area: 21 credits required

Ed. 205	Modern Grammar in the English Curriculum	3
Ed. 206	Composition in the English Curriculum	3
Ed. 294	Instructional Practicum (2 terms)	6
Ed. 295	Reading in the Content Areas	3
Ed. 297	Classroom Diagnosis of Reading Problems	3
Ed. 299	Teaching of Study Skills	3

Electives: 6 credits

The remaining six credits of work are selected in the light of the student's interest and mentor's recommendation.

Supervision

Dr. Thomas Gerrity, Director

Objectives

The preparation of elementary and secondary school subject supervisors. The Supervision credential may be pursued in the following areas:

School Guidance Services	Foreign Languages
Reading	Mathematics
Biology	Chemistry
Physics	Social Studies
Science	Communication

Admission Requirements

The candidate must meet the following requirements for acceptance into the Supervision program:

1. Possess adequate competency in the subject to be supervised. The application will be screened by the program faculty in the area for which the supervisory certificate is to be awarded.
2. Possess a valid teacher's certificate in area of concentration.
3. Complete an application for the Graduate School and meet the Graduate School admission standards.

Course Requirements

A student is required to complete a minimum of 24 credits in order to satisfy the competency requirements for supervisory certification, in order to be recommended by the University to the State Department of Education for certification as a supervisor. A suitable program, taken from the following courses and courses in the appropriate discipline, will be developed by the mentor in consultation with the student. The program must also be approved by the University's Certifying Officer. A competency needs analysis will be made to assist in developing a program of studies.

Courses	Credits
Ed. 202 Educational Research and Literature	3
Ed. 222.1 Problems in School Administration and Supervision	3
Ed. 222.8 School Law	3
Ed. 231 Improving Instruction	3
Ed. 233 Curriculum Theory and Development	3
Ed. 237 Principles and Practices of Supervision	3
Ed. 238 Practicum in Supervision	3
Ed. 241 Group Dynamics	3
Ed. 274 Development Psychology	3

Course Descriptions

Foundations Of Education

Education 201. *Educational Psychology* 3 credits

A study of psychological principles related to education, including learning, motivation, evaluation, with emphasis on practical application in the classroom setting. (Prerequisite: teaching experience or consent of instructor).

Education 202. *Educational Research and Literature* 3 credits

This is a basic course concerned with the nature of research problems in education. It is intended to introduce students to the basic principles of research; the more frequently employed research methodologies; the conceptualization of research problems in education; the formulation of hypotheses; and the study of selected data-gathering instruments. A research project is required, wherein the students will gain a facility in the critical analyses of research material essential to their graduate studies.

Education 203. *Educational Tests and Measurement* 3 credits

Fundamental concepts applicable to educational testing, including validity, reliability, types of scores. Uses of standardized tests, especially achievement tests, in school settings. Methods of developing classroom tests.

Education 205. *Philosophical and Historical Bases of Education I* 3 credits

This course considers in the tradition of philosophy the fundamental problems of the nature of man, the child, the parent, the school, and society. The aims of education in society and their consequences in rights and duties are the most salient problems.

Education 206. *Philosophical and Historical Bases of Education II* 3 credits

The second course studies the history of education formally. After a brief overview of the classical, patristic, and medieval periods, major attention is given to education in the twentieth century, especially in the United States.

Education 207. *The Sociology of Education* 3 credits

The sociology of education is oriented toward understanding the social influences on learning. The socialization of the child, social structure in American society, social mobility, the school as an agency of socialization, social problems especially germane to the school such as delinquency, population and racial integration, the social role of the teacher, the school and its sociological environment will be the areas of special concern.

Administration

Education 221. *Educational Administration* 3 credits

A foundations course in general school administration, involving philosophical bases, organization in a democratic society, administration of instruction and personnel. Required of all students beginning a major in educational administration and a prerequisite for other courses in educational administration.

Education 222.1. *Problems in School Administration and Supervision* 3-6 credits

A seminar for the student seeking certification in elementary or secondary school administration or in supervision. Emphasis is upon in-depth examination of a selected problem or issue in administration or supervision. Admission with approval of the instructor. (Prerequisite: Education 221)

Education 222.2. *Public Relations for Educators* 3 credits

An introduction to school public relations. Emphasis is focused upon establishing contact between schools and the general public through the use of mass media.

Education 222.3. *Personnel Management for Educators* 3 credits

An overview of the establishment and performance of personnel policies as they relate to recruitment, selection, orientation, deployment, promotion, evaluation, in-service development, morale, and dismissal. Admission with consent of instructor.

Education 222.4. *School Finance* 3 credits

An introduction to public school finance. Emphasis is focused upon the responsibilities in handling student funds, district budgeting and accounting, and modern planning-programming-budgetary systems. Admission with consent of instructor.

Education 222.5. *School Plant Management* 3 credits

A study of problems involved in the planning, operation, and maintenance of school plant facilities. Emphasis is upon efficient use of existing plant facilities and their possible adaptation to meet modern educational and community needs. Admission with consent of instructor.

Education 222.6. *School and Community Relations* 3 credits

A study of the relationship of the school to the community. Emphasis is focused upon the school-community concept, community analysis, community characteristics affecting quality education, and public participation in educational planning. Admission with consent of instructor.

Education 222.7. *Practicum in School Administration* 3-6 credits

The purpose of this course is to give the student practical experience in administrative work. A minimum of 130 clock hours in one semester must be spent on this work. Work is done under supervision in a local school system according to a definite schedule approved by the instructor and the administrator of the school system involved. Admission by special arrangement. (Normally offered Fall and Spring semesters only.) (Prerequisite: Ed. 224 or Ed. 225 as applicable.)

Education 222.8. *School Law* 3 credits

A study of common law legislative enactments and directives of the Department of Education as they pertain to school systems.

Education 222.9. *Seminar in Advanced School Law* 3 credits

A comprehensive study of legal issues related to the operation of the nation's schools. Special emphasis is placed on issues in school law that may affect the nation and substantially alter the course of education. Admission with approval of the instructor.

Education 223. *Educational Management* 3 credits
An overview of functions and problems in three major areas of responsibility: finance, law, and personnel.

Education 224. *The Elementary School Principal
as Administrator* 3 credits
A technical course emphasizing the administrative duties and responsibilities of the elementary school principal. Attention is focused on types of organization, program, studies, pupil progress, teaching staff, plant and equipment, and community relationships. (Prerequisite: Ed. 221)

Education 225. *The Secondary School Principal
as Administrator* 3 credits
A technical course emphasizing the administrative duties and responsibilities of the secondary school principal. Attention is focused on problems of organization, program of studies, pupil personnel, teaching staff, plant and equipment, and community relationships. (Prerequisite: Ed. 221)

Education 226. *Administration and Organization
of the Middle School* 3 credits
A technical course emphasizing the organizational and administrative duties and responsibilities of the middle school principal. Attention is focused on the problems of organization, program of studies, pupil personnel, teaching staff, plant and equipment, and community relationships. (Prerequisite: Ed. 221)

Curriculum, Instruction & Supervision

Education 230. *Current Issues in Education* 3 credits
Students in this course will have an opportunity to study and review the current research on pertinent issues in the education of children.

Education 231. *Improving Instruction* 3 credits
Students will study a wide spectrum of techniques and strategies to improve classroom instruction and enhance learning. Emphasis will be on practical classroom applications.

Education 232. *Personalizing Education* 3 credits
Students in this course will have an opportunity to study and utilize practical classroom approaches to personalize human relationships, instruction, curriculum, classroom organization and management.

Education 233. *Curriculum Theory and Development* 3 credits
Principles of curriculum construction which underlie the reorganization of the program of studies for elementary and secondary schools, sources of the curriculum, methods of organization, structure of knowledge, and curriculum planning and development.

Education 233.1. *Seminar in Curriculum Issues* 3 credits
An examination of the prevailing conceptual approaches to the study of curriculum. Issues for inquiry and research are identified. The student is required to conduct an independent project related to a particular curriculum issue. Admission with approval of the instructor.

Education 237. *Principles & Practices of Supervision* 3 credits

A description of a philosophy of supervision, principles of supervision, the role of the supervisor, planning a supervisory program, techniques of supervision, evaluation, coordinating the instructional program, and trends in supervision.

Educ./S.S. 237.2. *Teaching of History and Social Studies* 3 credits

A consideration of the objectives of social studies, organizing the subject matter, textual and non-textual materials, the social studies curriculum, outcomes and their evaluation.

Educ./Eng. 237.2. *Teaching of English Literary Types in Secondary Schools* 3 credits

Narrative and lyric poetry types, prose types, and drama. Techniques of methodology and organizational patterns are suggested. Listed under Education courses, this offering is taught by the Department of English.

Education 238. *Practicum in Supervision* 3 credits

The purpose of this course is to give the student practical experience in supervision. A minimum of 90 clock hours in one semester must be spent on this assignment. This is accomplished under the supervision of a certified supervisor, according to a definite schedule mutually approved by the instructor and cooperating supervisor. (Prerequisite: Ed. 231 and Ed. 237)

Education 260. *Teaching Internship* (Variable credits 3-9)

Involvement in actual teaching in a secondary school with appropriate supervision at both the secondary and University levels. Admission to the teaching internship is by permission of the Education Department chairperson. (Prerequisite: Ed. 103)

E/CS 208. *Computer Literacy for Educators* 3 credits

This course for educators is designed to meet the following goals: (1) knowledge of how computers operate; (2) develop ability to use the computer; (3) become aware of some of the applications of computers; (4) to understand the social implications of computers and computing; and (5) to understand the rudiments of the LOGO computing language, a language commonly available for microcomputers which promotes structured programming characterized by top-down design with stepwise refinement through modularization.

E/CS 209. *Problem Solving with Pascal* 3 credits

This course for educators is designed to meet the following goals: (1) to develop a workable knowledge of PASCAL; (2) to develop problem solving abilities utilizing top-down design with stepwise refinement; (3) to understand algorithm implementation; (4) to understand the principles of operating system design and utilization; (5) data structures and analysis of algorithms; and (6) to understand the principles of compiler and interpreter design. Admission with approval of the instructor.

E/CS 210. *Data Structures Using Pascal* 3 credits

This course is designed to give the teacher of computing the necessary background to teach the data structures component of the AP Computer Science course. Topics included will be stacks, queues, deques, linked lists, trees, sorting, searching, and implementations of these in Pascal. (Prerequisite: E/CS 209.)

- Education 281. *Individualizing Instruction* 3 credits
An analysis of theory and practice of individualizing instruction. Practical approaches will be emphasized.
- Education 282. *Teaching the Gifted Child* 3 credits
Teachers will have an opportunity to study the broad range of giftedness in children. Emphasis will be on how to foster the development of gifted youngsters in our schools. Programming for the gifted will be studied also.
- Education 283. *Children's Literature* 3 credits
Literature for children from kindergarten through the elementary school years. Children's literary needs and interests will be emphasized.
- Education 284. *Seminar in the Language Arts* 3 credits
Focus is on the place of the language arts in the total elementary school curriculum. Topics included are integration of reading, writing, speaking and listening; correlation of these four areas of the language arts with the content subjects; and a consideration of innovative spelling and handwriting programs.
- Education 285. *Workshop in Parent Involvement* 3 credits
This course is designed to facilitate teacher-parent involvement in the total learning process of children. Emphasis will be placed upon parent-teacher-child communication, activities for parent participation, and school-home relationships.
- Education 286. *Topics in Elementary School Mathematics* 3 credits
Students will study selected topics, problems, and recent developments relevant to the elementary mathematics curriculum and instruction.
- Education 287. *Topics in Elementary School Social Studies* 3 credits
Students will study selected topics, problems, and recent developments in the elementary/social studies curriculum and instruction.
- Education 288. *Topics in Elementary School Science* 3 credits
Students will study selected topics, problems, and recent developments in the elementary science curriculum and instruction.
- Education 289. *Workshop in Education* 3 credits
Students will have the opportunity to develop and test innovative curriculum materials and strategies with special emphasis on models for individualizing instruction.
- Education 289.1. *Workshop in Teaching Values* 3 credits
A course designed for students to become acquainted with areas of value teaching. It includes theory and value strategies for the classroom.

Research

Education 300. *Research Seminar*

Variable to 3 credits

Designed for students who are working on their M.A. thesis. Registration is only with permission of the student's advisor and the Department Chairman.

Education 300.1. *Directed Study*

Variable to 6 credits

This course is designed for students working in independent study on special projects and workshops. Registration in this course requires permission of the student's mentor, and the Department Chairman.

Reading

Education 290. *Instructional Materials and Strategies for the Teaching of Reading*

3 credits

A comprehensive survey of materials, resources and devices used to teach reading. Emphasis will be placed on traditional and current trend materials, laboratory kits, teacher made devices and instructional media.

Education 291. *Foundations of Reading Instruction*

3 credits

A basic course in the foundation of reading designed to provide an introduction to reading instruction and reading programs. A study of the reading skills, techniques and methods which are essential for effective reading will be examined.

Education 292. *Psycholinguistic Implications for the Teaching of Reading*

3 credits

A course designed to acquaint students with theories of the reading process as they relate to children's language acquisition and learning to read. Consideration will be given to the linguistic aspects of teaching reading. (Prerequisite: Educ. 291 or consent of instructor.)

Education 293. *Clinical Diagnosis of Reading Disabilities*

3 credits

A laboratory course designed to assist the reading specialist in becoming proficient in diagnostic skills. Standardized tests and informal assessment instruments will be examined. The student will be required to prepare a Diagnostic Case Report on a student experiencing difficulty in reading. Selected assessment tools will be identified to recommend as appropriate for use by the classroom teacher. (Prerequisite: Ed. 292 or consent of instructor.)

Education 294. *Instructional Practicum*

3 credits

A practicum designed to provide a supervised instructional experience. The student is expected to assess and initiate a program of instruction for a disabled learner. A report of the results of the diagnosis, remediation, progress, and recommendations will be compiled. (Prerequisite: Ed. 293 or Ed. 297 or consent of instructor.)

Education 295. *Reading in the Content Areas*

3 credits

A course designed for acquainting students with procedures of teaching functional reading skills in the elementary and secondary schools. Emphasis will be placed on the specialized vocabularies, concepts and skills which are considered necessary for the comprehension of reading materials pertinent to content area subjects. Various resources and devices will be examined.

Education 296. *Organization and Operation of*

Reading Programs

3 credits

A lecture-discussion course dealing with the responsibilities in setting up and directing a school reading program. Attention is given to types of programs and approaches to teaching reading in these different organizational patterns as well as incorporating procedures to support the regular classroom program. Admission with approval of instructor.

Education 297. *Classroom Diagnosis of Reading Problems*

3 credits

The course is designed to examine formal and informal techniques of diagnosis appropriate for use by the classroom teacher. Consideration will be given to identifying skill deficiencies exhibited by students experiencing reading problems. An examination of appropriate diagnostic techniques will be made. Interpretation of the assessment material will be made to determine their effectiveness for specific situations.

Education 299. *Teaching of Study Skills*

3 credits

A course designed to apprise the student of strategies effective in developing desirable study habits essential for learning. Consideration will be given to receptive, reflective, and expressive skills.

Counselor Education

Education 240. *Theories of Counseling*

3 credits

Various counseling theories will be studied. Emphasis will be upon evaluating the various theories and abstracting parts of these theories into a comprehensive overview of the counseling process. Required of all Counselor Education students.

Education 241. *Group Dynamics*

3 credits

A basic understanding of group dynamics and behavior is provided. Processes and patterns of interaction are analyzed primarily from the standpoint of their broad educational significance. The selection, evaluation and use of group counseling methods and materials are discussed. Methods of developing and organizing group programs are also presented. Students also participate in a group experience. Required of all Counselor Education students.

Education 242. *Case Management and Interviewing*

3 credits

This course deals with the application of counseling theory to the practical interview situation. The counseling process and the core elements of a facilitative counseling relationship will be examined. Counselor candidates will begin to develop basic interviewing skills. Required of all Counselor Education students.

Education 242.1. *Utilization of Community Resources*

3 credits

This course examines in detail the role of the counselor in relation to various agencies in the community. Criteria for referral and the referral process are described in depth as are the various aspects of collaboration and cooperation between school and community. Existing community resources are examined and representatives of various agencies present information about their services. (Prerequisite: Permission of the Instructor)

Education 242.2. *Family Counseling and Therapy* **3 credits**
Family Counseling theory and techniques are presented with special emphasis upon how they might be utilized by secondary school counselors. Although several conceptual models will be explored, the primary focus will be upon a Structural approach to family counseling. (Prerequisite: Ed. 240, 241, 242 and permission of the instructor.)

Education 243. *Current Issues in Counseling and Guidance* **3 credits**
This is a professional seminar wherein emphasis is placed upon the development of a sensitivity to the educational, sociological and philosophical implications of the counselor's role. This course is designed to provide for a smooth transition to the role of school counselor. Included in the course is a consideration of current ethical, legal, and professional development issues. Required of all Counselor Education students.

Education 244.1. *Supervised Counseling Experience I* **3 credits**
This course consists of the actual counseling of secondary school students under supervision. A variety of experiences are provided for individual counseling, usually on site. Required in the certificate program. Admission is only by consent of instructor.

Education 244.2. *Supervised Counseling Experience II* **3 credits**
Actual counseling of secondary school students under supervision occurs in this course. A variety of experiences are provided for individual counseling and other counselor-related activities, usually on site. Required in the certificate program. Admission is only by consent of the instructor and the satisfactory completion of Education 244.1

Education 245. *Research Seminar in Counseling* **3 credits**
This course is intended to help students develop and further refine those skills necessary for understanding and conducting research studies. In addition to various research methodologies, the use of resources, e.g. general reference works, computer center, etc. will be presented. The primary emphasis will be upon current research in counseling and related fields. Scholarly project requirements will be fulfilled in this course.

Education 246. *Vocational Development* **3 credits**
Psychological and sociological aspects of vocational choice and vocational adjustment will be presented and major theories of vocational development will be reviewed. Emphasis will be placed upon methods and resources for facilitating career development throughout the lifespan. Career Education, computerized information systems, and decision-making methods will be considered along with innovative approaches for special needs populations. Required of all Counselor Education students. (Prerequisite: Education 240, 242 and 254.)

Education 254. *Use of Tests in Counseling* **3 credits**
Emphasis will be placed upon the development of competency in the evaluation, use, and interpretation of tests and inventories used in assessing abilities, achievement, interests and personality. The relationship of informal data to the analysis of individual behavior will be included. Selected instruments will be examined in terms of their design and appropriate utilization in the secondary school program.

Education 274. *Developmental Psychology* 3 credits

This class provides an understanding of developmental psychology, including theoretical approaches and issues relating to physical, cognitive, personality and moral development with particular emphasis on implications for counseling and educating secondary school students. Both psychological and sociological impacts on development will be overviewed.

Education 275. *Psychology of Adjustment* 3 credits

This course provides an understanding of adjustive behavior, including the discrimination of normal from abnormal behavior and a thorough understanding of sources of stress and stress management. Attention is given to factors that influence behavior with special attention to adjustment problems of secondary school students. Recommended in the certificate program and must be preceded by Education 274 or the equivalent.

Mathematics

Math 404. *Modern Algebra for Teachers* 3 credits

A treatment of groups, rings, etc. culminating in the negative result, Abel's Theorem, that there can be no formula for solving polynomial equations of degree greater than four. Wherever possible, the material shall be related to the various subsets of the real number system covered in the secondary schools.

Math 405. *Linear Algebra and Theory of Equations* 3 credits

A study of second, third and fourth degree equations and systems of equations. Along with the methods of solution, an attempt will be made to provide the teacher with a backlog of applications for each type in the form of word problems.

Math 406. *Introductory Analysis* 3 credits

An indepth study of the concepts and principles of calculus that are generally encountered in a secondary school analysis course. Emphasis will be placed on the development of the concepts of limit, derivative and integral and the various techniques a teacher might utilize in presenting them to a secondary school class. The student need not presently possess facility with calculus as this will develop during the course.

Math 407. *Geometry* 3 credits

A study of Euclidean geometry including a discussion of methods and materials that teachers may employ in order to generate interest and enhance presentations. Wherever possible, relevant practical applications will be provided. A discussion of certain transformations will also be included.

Math 408. *Probability and Statistics* 3 credits

An axiomatic approach to probability covering the basic rules, independence and conditional probability, probability functions, normal curve and hypothesis testing.

Math 409. *Introduction to Computing* 3 credits

A discussion of various secondary-school problem-solving techniques that involves the use of computers.

Department of Human Resources

Dr. Joseph A. Szuhay, CRC, Chair

General Information

The Department offers coursework leading to Master of Science degrees in Rehabilitation Counseling, Individual and Group Counseling, and Human Resources Administration.

The applicant for admission to any Departmental program must possess a bachelor's degree from an accredited college or university and provide the Graduate School with evidence of satisfactory undergraduate preparation. The ordinary standard for admission is an undergraduate QPI of at least 2.75 on a grading scale of 4.00. Students falling below this level may submit other evidence of their ability to complete successfully a graduate program, such as grades in other graduate level courses, a record of progressively higher work responsibilities, or scores from the Miller Analogies Test or Graduate Record Examination and may be accepted on a probationary basis. Students accepted on probation cannot enroll for more than six credits in a semester and must obtain a cumulative QPI of at least 3.0 after completing nine credits of coursework to be removed from probation. A personal interview prior to acceptance is required.

A maximum of six graduate credits from another college or university may be accepted for transfer if course relevance can be established, if the coursework was taken within six years of the student's admission to the program, if a grade of at least B was obtained, and is in accordance with other Graduate School policies.

Students in any program may take six credits of electives in any other program within the Department. Election of more than six credits requires the approval of the Director of the program in which the student is enrolled.

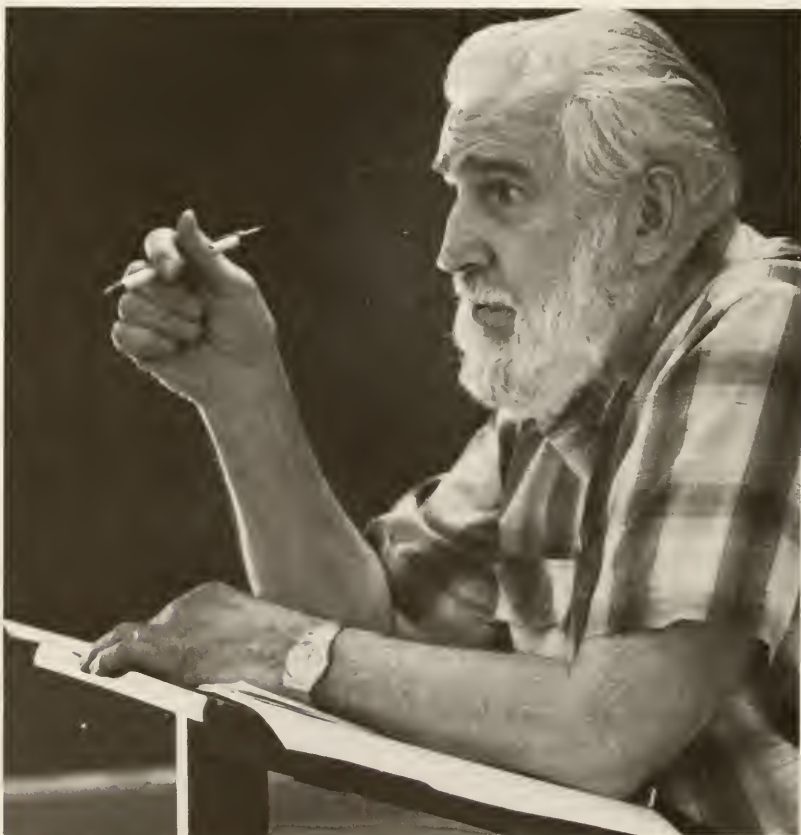
Students in any program may enroll for a Directed Study course to pursue an area of interest under the guidance of a faculty member. In extraordinary cases, a regular course may be offered to a student as a reader. Approval of the Director is required for both directed study and reader courses.

Students in all programs must successfully pass a comprehensive examination which may combine written, oral, and experiential components. Application for the comprehensive examination is made when the student registers for the counseling practicum (RC341) or administrative issues (HRA 375). The examination is completed at the midpoint of the course.

Application for degree should be made at registration for the last semester of coursework. Degrees are conferred in May, August, and December, but commencement exercises are held in May only.

Students must have a cumulative QPI of at least 3.0 at the end of their prescribed curriculum to receive the master's degree. In addition, all students must maintain a cumulative QPI of at least 3.0 to remain in good academic standing. If a student's cumulative QPI drops below 3.0 he or she is placed on academic probation for a maximum of two academic semesters of coursework. If the student's cumulative QPI has not increased to at least 3.0 after two semesters, he or she is dismissed or may take further coursework for self improvement only.

The student should refer to the Academic Regulations section of the Graduate School Catalog for additional relevant policies.



Dr. Joseph Szubay, Chairman, Department of Human Resources and Director of the Rehabilitation Counseling Program.

Human Resources Administration

Dr. John K. Stout, CRC, Director

The 36 credit Master of Science Degree Program in Human Resources Administration prepares personnel to enter and/or advance in the following Areas of Application:

ORGANIZATIONAL SUPERVISION This area of application emphasizes preparation for and/or advancement in supervisory and administrative positions in public and private health, education, and human services organizations, agencies, and systems. Supervisory and administrative personnel work with people and need a variety of human, conceptual, and technical skills. They use the processes of planning, organizing, staffing, influencing, and controlling the efforts of individuals and commit the use of organizational resources to achieve organizational goals. In practicing the art of getting things done with and through people, supervisors and administrators are concerned with increasing the effectiveness and efficiency of a department or organization.

PERSONNEL The personnel application area emphasizes preparation for and/or advancement in human resources systems. These specialists usually work in a staff or consultative capacity in most organizations. Their tasks may involve assessing personnel needs, recruitment, selection, orientation, and training; designing and implementing compensation and benefit systems; employee assessment and career development; developing discipline and grievance-handling systems; working with unions or union activity; ensuring the organization's compliance with equal employment opportunity and other governmental regulations; designing and implementing to ensure employee health and safety; and, providing assistance to employees with personal problems that influence their work performance.

HEALTH CARE This application area emphasizes preparation for and/or advancement in the broad field of health and hospital administration. Supervisory and administrative personnel work in a variety of health-related service delivery systems such as hospitals, long-term care facilities, rehabilitation centers, and home health organizations. Depending on the position, they may be engaged in line supervision of direct service workers or other managers or they may be involved in staff positions such as planning, community relations, education, training and staff development, fund raising, and marketing.

Program Objectives

The Program is specifically designed to: (1) prepare academically individuals to enter supervisory and administrative positions; (2) enhance the performance of individuals employed in supervisory and administrative positions, but who lack academic training and credentials; and, (3) prepare academically individuals to enter or advance in a variety of staff positions and departments.

The Program emphasizes a learning environment wherein the student can acquire academic knowledge, gain practical skills, and engage in self exploration and personal growth.

Curriculum

The Human Resources Administration curriculum has Generic courses, courses distributed in three Areas of Application, and Elective courses. The three Generic courses contain knowledge applicable to staff, supervisory, and administrative positions in most organizations and are required of all students. Application Area 1 — Organizational Supervision, Area 2 — Personnel, and Area 3 — Health Care, each contain four courses from which any three are required to constitute an Area of Application. There are 18 required credits in the curriculum: nine credits of generic coursework and nine credits from either Areas 1, 2, or 3 depending on the student's interest in specialization. The remaining 18 credits are elective and should be taken from the elective courses, from other Application Area courses, or from other departmental or University courses, after consultation with the Program Director. These courses should be chosen to complement the student's Area(s) of Application. Students generally elect their Area(s) of Application at the time of acceptance into the Program.

Areas of Application

Areas of Application should be considered similar to the concept of a major; that is, an area in which the student has developed an area of expertise. The student normally elects Areas of Application on the basis of interest and career goals although it is not required that any Area(s) of Application be elected. The Program contains three Areas of Application. Area 1 — Organizational Supervision is the most general (least specialized) of all the Areas of Application and provides the broadest academic preparation within the field of administration. Areas 2 and 3, Personnel and Health Care, respectively, are more specialized and prepare the student for a more limited area(s) of application. The student should consider how electing two Areas of Application can help in reaching career goals. The Area(s) of Application chosen are shown on the student's transcript.

Program Requirements

Applicants must have a bachelor's degree with a minimum grade point average of 2.75 on a grading scale of 4.00. International students must score at least 530 on the TOEFL. The Program usually accepts only those applicants who have at least 12 months of professional work experience. Individuals without work experience may enter the Program, but may be required to enroll in an internship to gain practical experience. These individuals should discuss their employment possibilities with the Program Director during their interview. Six graduate credits from another college or university may be accepted for transfer into the Program if in accordance with Graduate School policies. Students must pass a comprehensive examination which combines written, oral, and experiential components. Application for comprehensive examination is made at the time the student registers for HRA 375 — Administrative Issues and is completed at the mid-point of the course. Students may take a maximum of six elective credits from other master's programs at the University, after consultation with the Program Director. Students must have an academic average of at least 3.0 to graduate. Applicants should be prepared to discuss their career goals with the Program Director during a personal interview, which is required prior to acceptance, and show how they see the curriculum supporting their longer-term goals.

Scheduling

Courses are offered from 4:30 p.m.-7:00 p.m. and 7:30 p.m.-10:00 p.m. Monday through Thursday. The degree can be received in 12 months of full-time academic study, although most students attend on a part-time basis and earn their degree in approximately 24 months. Ordinarily, the degree must be completed in six consecutive years. Applicants may start coursework in September, January, February, and June. The schedule on the next page shows the term when courses are typically offered: FA = Fall, IN = Intersession (January), SP = Spring, SU = Summer



Curriculum and Schedule

		FA	IN	SP	SU
Generic Courses					
(Required in all Areas)					
HRA 371	Organization and Administration	X			
HRA 372	Financial Administration	X			
HRA 375	Administrative Issues	X		X	
Areas of Application					
Area 1 — Organizational Supervision					
(9 credits required)					
HRA 373	Managerial Leadership*			X	
HRA 374	Program Planning and Evaluation	X			
HRA 376	Motivation and Work Behavior	X			
HRA 381	Individual Behavior in Organizations		X		
HRA 382	Group Behavior in Organizations				X
Area 2 — Personnel					
(9 credits required)					
HRA 384	Personnel Administration*			X	
HRA 385	Labor Relations			X	
HRA 386	Industrial Rehabilitation			X	
HRA 387	Compensation and Benefits	X			
HRA 388	Health Promotion/EAP				X
Area 3 — Health Care					
(9 credits required)					
HRA 392	Marketing Health and Human Services		X		
HRA 394	Issues in Health Administration* or	X			
HRA 395	Health Services and Systems*	X			
HRA 396	Legal Aspects of Health Care	X			
HRA 397	Health and Hospital Administration			X	
Elective Courses					
HRA 391	Computer Technology**				X
HRA 300	Directed Study	By Appointment			
HRA 398	Internship***	By Appointment			
HRA 399	Special Topics	By Appointment			

*Required course in Area of Application; **A laboratory fee of \$40.00 is charged; ***An insurance fee of \$12.50 is charged.

Students may take courses in other Application Areas or in other University Programs after consultation with the HRA Program Director. Credits for Degree = 36

Rehabilitation Counseling

Dr. Joseph A. Szuhay, CRC, Director

Objectives

The objective of the Rehabilitation Counseling Program is to prepare professionals for the direct entry into and/or advancement in counseling-related staff positions in public and private rehabilitation organizations, services, and systems.

More specifically, the Program is designed to: (1) enhance knowledge of rehabilitation concepts and practices; (2) provide individuals with the counseling skills necessary for functioning in rehabilitation settings; (3) prepare individuals for certification as rehabilitation counselors; and (4) enhance individuals' employability in entry level or advanced clinical positions in rehabilitation settings.

The Program offers a learning environment in which the student can acquire the academic competencies of the profession and refine them through practical experience. The Program also provides a facilitative process through which the student can increase self understanding, self confidence, and personal effectiveness.

Profession

The rehabilitation counselor is an intervention specialist who either delivers or arranges to deliver therapeutic services to a variety of handicapped persons to assist the individual reach mutually agreed upon goals. The specific roles and functions of the rehabilitation counselor, the services provided, and the goals established will vary depending on the agency or organization in which the counselor is employed. In the typical vocational rehabilitation agency, medically, mentally, emotionally, or socially handicapped individuals are provided a variety of psychological, medical, social and vocational services to assist the person achieve independence in living and in becoming competitively employed.

Employment Opportunities

The Occupational Outlook Handbook, a publication of the U.S. Department of Labor, projects the employment opportunities in rehabilitation counseling to be good throughout the country through the 1990's. Follow-up data from over 500 graduates of the Program indicate that approximately fifteen percent received doctorates or are presently working on doctorates in rehabilitation or some related counseling profession. The overwhelming majority of the other

graduates are employed in over thirty states throughout the country in a variety of public and private community agencies and organizations dealing with addictive problems; correctional rehabilitation; physically, auditorially, or visually handicapped; the mentally retarded or emotionally disturbed, the learning disabled; the socially-culturally disadvantaged; and geriatric clients.

Curriculum

The Rehabilitation Counseling Program is a two year, four semester, 48 credit curriculum. It is conceptualized as five curricular modules; professional foundations; medically-related disability groups; industrial rehabilitation; counseling systems; practical experience, and administration.

A number of credits are specified in each module and totals 42 credits for the entire Program; however, only 39 credits involved specified required courses. There are 9 elective credits in the Program.

The Program ordinarily is 48 credits in length; however, students may select one or more of the following options to fulfill degree requirements.

Option (1): Graduates of the University of Scranton in the Health and Human Services or Health & Human Services Administration curriculum may petition for a waiver of RC 302—Case Management and Interviewing and RC 331—Counseling Theories. A grade of B or better in the undergraduate equivalent course is required. With this option, 42 credits are required for the degree.

Option (2): Students with a minimum of two years relevant professional work experience and who demonstrate competence in counseling skills in RC 341-Practicum, may petition for waiver of RC 343-Internship. Students considering this option should consult with the Program Director since internship waiver has implications for eligibility to sit for the national examination for Certified Rehabilitation Counselor. With this option, 45 credits are required for the degree.

Option (3): Students who possess the necessary personal and academic attributes may elect to complete a Scholarly Paper that may involve quantitative research or theoretical exposition. Approval by the Program Director and Paper advisor is required. With this option, 45 credits are required for the degree.

It should be emphasized that, regardless of the option(s) selected, the minimum number of credits required for the degree is 42.

Certification

Rehabilitation Counseling courses are approved by the Commission on Rehabilitation Counselor Certification (CRCC) toward certification as well as for certification maintenance credits.

Projected Course Schedule

FA IN SP SU

Professional Foundations

(12 credits required; 12 credits specified)

+ *RC 301	Rehabilitation Services and Issues	X			
*RC 302	Case Management & Interviewing	X			
*RC 303	Use of Tests in Counseling			X	
*RC 304	Research in Counseling	X		X	

Medically Related Disability Groups

(3 credits required; 3 credits specified)

RC 311	Addictive Behaviors		X		
*RC 312	Physical Disabilities			X	
RC 313	Psychiatric Disorders			X	

Industrial Rehabilitation

(6 credits required; 6 credits specified)

*RC 321	Vocational Aspects of Disability	X			
*RC 336	Industrial Rehabilitation			X	
HRA 384	Personnel Administration			X	
HRA 388	Health Promotion/Employee Assistance Programming				X

Counseling Systems

(9 credits required; 6 credits specified)

*RC 331	Counseling Theories			X	
*RC 332	Behavioral Counseling	X			
RC 333	Group Dynamics		X		
RC 334	Family Counseling and Therapy	X			
RC 335	Stress Management	X			

Practical Experience

(12 credits required; 12 credits specified)

*RC 341	Practicum in Counseling	X			
RC 342	Practicum in Group Dynamics	X	X		
#*RC 343	Internship in Rehabilitation Counseling			X	X

*Required courses

+ A special materials fee at \$25.00 is charged to RC 301.

#An insurance fee of \$15.00 is charged for RC 343.

Directed Study

(0 credits required)

RC 300	Directed Study	X	X	X	X
RC 399	Special Topics	X	X	X	X

Total Credits For Degree 48

Total Specified Credits: 39

Total Elective Credits: 9

Financial Aid

Limited financial aid has been available in the form of traineeships from the Rehabilitation Services Administration. The full-time student traineeship may pay the student's tuition, fees, and provide a monthly stipend. Application forms are available from the Department of Human Resources.

THE REHABILITATION COUNSELING PROGRAM IS
ACCREDITED BY THE COUNCIL ON
REHABILITATION EDUCATION (CORE)

Individual and Group Counseling

Dr. David W. Hall, CRC, NCC, Director

Objective

The objective of the Individual and Group Counseling Program is to prepare professionals for direct entry into and/or advancement in counseling related staff positions in public and private health and human service organizations and systems.

More specifically, the Program is designed to: (1) enhance knowledge of counseling concepts and practices; (2) provide individuals with the counseling skills necessary for functioning in agency settings; (3) prepare individuals for certification as counselors, and (4) enhance individuals' employability in entry level or advanced clinical positions in health and human service settings.

The Program offers a learning environment whereby the student can acquire the academic competencies of the profession and refine them through practical experience as well as to provide a facilitative process through which the student can increase self understanding, self confidence, and personal effectiveness.

Profession

According to the American Association for Counseling and Development, counselors are skilled professionals who are trained to help others gain a perspective on their lives, explore options, make decisions, resolve problems, and take action. Counselors work with individuals, couples, families and groups of persons who experience academic, behavioral, career, emotional, interpersonal, and social problems, depending upon the agency or organization in which the counselor is employed. By establishing an effective and trusting helping relationship, a counselor assesses a client's strengths and resources and helps the client increase life-management skills so that mutually agreed upon goals may be achieved.



Employment Opportunities

According to the *Occupational Outlook Handbook*, U.S. Department of Labor, employment for counselors who work in the fields of mental health, marital and/or family difficulties, alcoholism, drug abuse, and aging will grow faster than average through the mid 1990's. Private practices, community and social service agencies, and human development and employee assistance programs in private industry are among the settings in which growth in counselor employment will occur.

Curriculum

The Individual and Group Counseling Program requires a minimum of 36 credits. Twenty-one credits are required counseling courses and 15 are electives. Six credits of electives may be taken from outside the Individual and Group Counseling Curriculum. Students should discuss their choice of electives with their mentor to insure relevance to future employment settings.

A nine credit internship is also offered to those students who have no counseling experience prior to entering the program, or who may need an internship for counseling credentialing. It may be taken only after completion of 36 credits of other coursework.

Projected Course Schedule

<i>Required</i> (21 credits)	<i>FA</i>	<i>IN</i>	<i>SP</i>	<i>SU</i>
IGC 302 Case Management & Interviewing	X			
IGC 303 Use of Tests in Counseling			X	
IGC 304 Research in Counseling	X			
IGC 331 Counseling Theory			X	
IGC 333 Group Dynamics		X	X	
IGC 341 Practicum in Counseling	X		X	
IGC 351 Professional Issues				X

ELECTIVES (15 credits)

Special Techniques

IGC 332 Behavioral Counseling	X			
IGC 334 Family Counseling and Therapy	X			
IGC 335 Stress Management	X			

Special Populations

IGC 311 Addictions		X		
IGC 312 Physical Disabilities			X	
IGC 313 Psychiatric Disorders			X	

Practical Experience

IGC 342 Practicum in Group Counseling	X	X		
IGC 343 ¹ Internship in Counseling			X	X

Directed Study

IGC 300 Directed Study	X	X	X	X
IGC 399 Special Topics	(offered periodically)			

*ELECTIVES OUTSIDE OF IGC*² (6 allowed)

Education

ED 246 Vocational Development	X			
ED 274 Developmental Psychology			X	
ED 275 Psychology of Adjustment			X	

Administration

HRA 371 Organization & Administration	X			
HRA 372 Financial Administration	X			

Employee Assistance Counseling

HRA 384 Personnel Administration			X	
HRA 388 Health Promotion/Employee Assistance Programming				X

Rehabilitation Counseling

RC 321 Vocational Aspects of Disability	X			
RC 336 Industrial Rehabilitation			X	

¹Can only be taken after completion of 36 credits of other coursework.

²Suggested electives. Others may be substituted depending on student need with the permission of program directors.

COURSE DESCRIPTIONS

Human Resources Administration

HRA 371. *Organization and Administration* 3 credits

The planning, organization, directing, and controlling functions of administration in health and human services organizations. Differences between for-profit and not-for-profit organizations.

HRA 372. *Financial Administration* 3 credits

The functions of finance including accounting conventions, capital budgeting and financing, revenue and expense budgets, cash flow and cash management in health and human services systems.

HRA 373. *Managerial Leadership* 3 credits

The interaction of the manager and the employee with emphasis on managerial/supervisory roles, motivational approaches and theories, leadership styles, and their relationship to productivity and job satisfaction.

HRA 374. *Program Planning and Evaluation* 3 credits

Program evaluation models, strategies, and processes in health and human services organizations.

HRA 375. *Administrative Issues* 3 credits

A case study and role playing seminar in issues and problems in supervision and administration. Graded: satisfactory/unsatisfactory. (Prerequisite: 18 HRA credits).

HRA 376. *Motivation and Work Behavior* 3 credits

Models and theories of work motivation with their implications for managers and organizational characteristics and the design of jobs and work systems. The interrelationships between motivation, productivity, and job satisfaction.

HRA 381. *Individual Behavior in Organizations* 3 credits

The behavior of the individual is explored with emphasis on interviewing, communications, and counseling. Personality, counseling, and management theories are integrated into workable supervisory models and strategies.

HRA 382. *Group Behavior in Organizations* 3 credits

An understanding of group behavior and dynamics with emphasis on group membership and leadership, team development, communications, organizational development, decision-making, and conflict resolution.

HRA 384. *Personnel Administration* 3 credits

The personnel functions of recruitment, selection, training, performance appraisal, compensation and benefits programs, and regulations governing personnel administration.

HRA 385. *Labor Relations* 3 credits

Organized labor in organizations including labor relations, union security and contracts, collective bargaining, grievance processing, and third party resolution.

HRA 386. *Industrial Rehabilitation* 3 credits

Case management of the industrially injured and the physical, psychological and vocational factors affecting re-employability. Legal and insurance issues related to work injury.

HRA 387. *Compensation and Benefits* 3 credits

Concerns all of the ways in which organizations reimburse employees for their effort and the legal and regulatory environment affecting compensation and benefits.

HRA 388. *Health Promotion/Employee Assistance Programming* 3 credits

Approaches of organizations to promote employee health and to provide assistance to employees with a variety of problems that interfere with productivity.

HRA 391. *Computer Technology* 3 credits

A “hands-on” introduction to computer terminology, technology, and applications. Emphasis is on word processing, electronic spreadsheets, statistical packages, and database software.

HRA 392. *Marketing Health and Human Services* 3 credits

Principles of marketing and their application in health and human services including market research, market targets, market segmentation and strategic planning as well as marketing's role in management, public relations, advertising, and development.

HRA 394. *Issues in Health Administration* 3 credits

Contemporary issues in health care and health administration related to the changes in the health delivery system resulting from changes in health and hospital reimbursement system.

HRA 395. *Health Services and Systems* 3 credits

Historical development of health services and systems, health insurance, government regulation, and current issues in the organization and delivery of health services.

HRA 396. *Legal Aspects of Health Care* 3 credits

Impact of legal factors affecting patient/client care, operations, and administration of health and hospital systems.

HRA 397. *Health and Hospital Administration* 3 credits

Operating and administrative issues and problems in health and hospital systems with emphasis given to hospital operation, organization, and administration.

HRA 398. *Internship* 3 credits

Placement in an administrative or staff position in a community for-profit or not-for-profit health, education, or human services organization. The internship involves 200 clock hours of practical experience. A semester project is required. Graded: satisfactory/unsatisfactory.

HRA 300. *Directed Study* 3 credits

Allows the student to pursue an area of interest under the guidance of a faculty person. A fee, in addition to tuition charges, may be charged. Approval by the faculty person and the Program Director is required.

HRA 399. *Special Topics* 3 credits

Selected topics of current interest are offered on a variable basis including but not restricted to career development, stress management, health promotion and wellness, employee assistance programs.

Rehabilitation Counseling

RC 301. Rehabilitation Services & Issues *3 credits*

Identification of the principles underlying rehabilitation, including history, philosophy, structure, and legislation. Study of the rehabilitation process from referral through follow-along activities. Concepts regarding legal issues, professional ethics, consumer advocacy, personal philosophy, community organization and the team concept are presented through a combination of guest lecturers and seminars. (\$25.00 laboratory fee)

RC 302. Case Management and Interviewing *3 credits*

The role of the rehabilitation counselor as a case manager or coordinator of services is examined. A case study approach is utilized.

RC 303. Use of Tests in Counseling *3 credits*

Focuses on the statistical and research basis of psychological testing. Psychological tests are conceptualized and the student gains familiarity with the clinical use of these tests in counseling.

RC 304. Research in Counseling *3 credits*

Provides the student with an introduction to research methodology in counseling. The student will develop an understanding of research methods sufficient to enable a critical reading of professional research literature, and to enable the student to participate in conducting research.

RC 311. Addictions *3 credits*

The problems of drug and alcohol dependency are examined. Treatment approaches and facilities are illustrated and discussed with guest lecturers, seminars and a field trip to a local treatment facility being required.

RC 312. Physical Disabilities *3 credits*

Unique problems of various disability groups encountered by the counselor. Psychodynamic principles underlying personal adjustment to disability with emphasis on client needs, conflicts, and adjustment mechanisms. Environmental adjustment problems in relation to the nuclear family and community.

RC 313. Psychiatric Disorders *3 credits*

An examination of the problems of and associated with mental and emotional disturbances. Emphasis is placed on contemporary modalities of treatment as they relate to community mental health programs. Critical issues revolving around mental health including the dynamics behind these issues will be discussed.

RC 321. Vocational Aspects of Disability *3 credits*

Theories and models of vocational choice, career development, vocational counseling, and selected vocational assessment measures are presented. An in-depth study of placement and rehabilitation problems and issues dealt with by the counselor in placing individuals with disabilities is included. Job analysis, industrial visits as well as a 1-day placement workshop are required.

RC 331. Counseling Theories *3 credits*

Selected theories and techniques of counseling are discussed and examined through a combination of lecture, discussion, and role playing activities. Application to different types of clients is discussed. (Prerequisite, RC 302).

RC 332. *Behavioral Counseling* 3 credits

The literature on behavior modification and therapy is examined with particular emphasis on the application in rehabilitation facilities such as sheltered workshops, halfway houses, correctional facilities, and mental institutions. (Prerequisite, RC 302)

RC 333. *Group Dynamics* 3 credits

Selected theories, techniques, and research in group counseling, and dynamics are discussed with particular emphasis on application in treatment and supervision.

RC 334. *Family Counseling and Therapy* 3 credits

The systems and communication theories of family therapy will be presented with specific attention to the structural and strategic family therapy approaches. A variety of family therapy techniques and stages will be learned through the use of role play and videotaping. The utilization of family therapy with rehabilitation clients will be discussed.

RC 335. *Stress Management* 3 credits

Focuses on stress, the nonspecific response of the body to any demand, which affects thoughts, emotions, and the body. Stress-induced diseases of adaptation (the psychosomatic warning signs such as hypertension, gastrointestinal disorders, and nervous disturbances) along with the stress-related thought disorders and emotional disturbances are examined.

RC 336. *Industrial Rehabilitation* 3 credits

Focuses on case management of the industrially injured. The physical, psychological, and vocational factors affecting employability principles and practices of private sector rehabilitation, selective job placement/job modification techniques, and vocational testimony are discussed. Case examples are utilized. (Prerequisites, RC 301, RC 302 and RC 321).

RC 341. *Practicum in Counseling* 3 credits

Focuses on necessary and desirable counseling skills, development of counseling relationships, and case conceptualization. Practical application of counseling theories and techniques, psychological testing, and vocational development theory is emphasized. (Prerequisites, 301, 302, 303, 304, 331, 332).

RC 342. *Practicum in Group Counseling* 3 credits

Focuses on necessary and desirable group counseling skills, the development of group environments and the use of group techniques for generating individual change. An advanced personal group experience under direction of the faculty is an ongoing part of this practicum. Students will be admitted to this practicum only by consent of faculty practicum supervisor. (Prerequisite, RC 333).

RC 343. *Internship in Rehabilitation Counseling* 9 credits

Full time placement in a community rehabilitation agency, facility or institution involving 600 clock hours of supervised experience. These assignments may include work in a district office of the Pennsylvania Office of Vocational Rehabilitation, or an agency offering services for a specific handicapped group (blind, retarded, emotionally disturbed, learning disabled, orthopedically disabled, etc.), or in a sheltered workshop, center, hospital or other public or private agency where the student is a member of the rehabilitation team. (Prerequisite, RC 302,303,331,341; Insurance fee: \$15.00)

RC 300. *Directed Study* 3 credits

Allows the student to pursue an area of interest under the guidance of a faculty member. A fee, in addition to tuition charges, may be charged. Approval of the faculty member and Program Director is required.

RC 399. *Special Topics* 3 credits

Selected topics in the field of Rehabilitation are offered on a variable schedule. Topics include: ethics and professionalism, counseling the aged, developmental disabilities, mental retardation, corrections, learning disabilities, or other current issues.

Individual & Group Counseling

IGC 302. *Case Management and Interviewing* 3 credits

The role of the counselor as a case manager or coordinator of services is examined. A case study approach is utilized.

IGC 303. *Use of Tests in Counseling* 3 credits

Focuses on the statistical and research basis of psychological testing. Psychological tests are conceptualized and the student gains familiarity with the clinical use of these tests in counseling.

IGC 304. *Research in Counseling* 3 credits

An introduction to research issues and methodology in the field of counseling. Emphasis is placed on gaining the knowledge necessary to evaluate the conclusions of published research.

IGC 311. *Addictions* 3 credits

The problems of drug and alcohol dependency are examined. Treatment approaches and facilities are illustrated and discussed with guest lecturers, seminars, and a field trip to a local treatment facility is required.

IGC 312. *Physical Disabilities* 3 credits

Unique problems of various disability groups encountered by the counselor. Psychodynamic principles underlying personal adjustment to disability with emphasis on client needs, conflicts, and adjustment mechanisms. Environmental adjustment problems in relation to the nuclear family and community.

IGC 313. *Psychiatric Disorders* 3 credits

An examination of the problems of and associated with mental and emotional disturbances. Emphasis is placed on contemporary modalities of treatment as they relate to community mental health programs. Critical issues revolving around mental health including the dynamics behind these issues will be discussed.

IGC 331. *Counseling Theories* 3 credits

Selected theories and techniques of counseling are discussed and examined through a combination of lecture, discussion, and role playing activities. Application to different types of clients is discussed. (Prerequisite, IGC 302.)

IGC 332. *Behavioral Counseling* 3 credits

The literature on behavior modification and therapy is examined with particular emphasis on the application of techniques to varied clinical populations. (Prerequisite, IGC 302.)

IGC 333. *Group Dynamics* 3 credits
Selected theories, techniques, and research in group counseling, and dynamics are discussed with particular emphasis on application in treatment and supervision.

IGC 334. *Family Counseling and Therapy* 3 credits
The systems and communication theories of family therapy will be presented with specific attention to the structural and strategic family therapy approaches. A variety of family therapy techniques and stages will be learned through the use of role play and videotaping. The utilization of family therapy with clients will be discussed.

IGC 335. *Stress Management* 3 credits
Focuses on stress, the nonspecific response of the body to any demand, which affects thoughts, emotions, and the body. Stress-induced diseases of adaptation (the psychosomatic warning signs such as hypertension, gastrointestinal disorders, and nervous disturbances) along with the stress-related thought disorders and emotional disturbances are examined.

IGC 341. *Practicum in Counseling* 3 credits
Focuses on necessary and desirable counseling skills, development of counseling relationships, and case conceptualization. Practical application of counseling theories and techniques, psychological testing, and vocational development theory is emphasized. (Prerequisite, IGC 302,303,304,331,332).

IGC 342. *Practicum in Group Counseling* 3 credits
Focuses on necessary and desirable group counseling skills, the development of group environments and the use of group techniques for generating individual change. An advanced personal group experience under direction of the faculty is an ongoing part of this practicum. Students will be admitted to this practicum only by consent of faculty practicum supervisor. (Prerequisite, IGC 333).

IGC 343. *Internship in Counseling* 9 credits
Full time placement in a community agency, facility, or institution involving 600 clock hours of supervised experience. These assignments may include work in mental health, drug and alcohol, family service, aging, or mental retardation facilities. (Prerequisite, IGC 302,303,304,333,341).

IGC 300. *Directed Study* 3 credits
Allows the student to pursue an area of interest under the guidance of a faculty member. A fee, in addition to tuition charges, may be charged. Approval of the faculty member and a program Director is required.

IGC 351. *Professional Issues in Individual and Group Counseling* 3 credits
Focuses on the underlying philosophical, historical, professional, legal, and ethical issues involved in the profession of counseling. Designed to acquaint the student with important issues in the field of professional counseling and to help the student establish a sense of professional identity.

IGC 399. *Special Topics* 3 credits
Selected topics of current interest in the field of counseling are offered on a variable schedule.

Business Administration (MBA) Program

Dr. Joseph Zandarski, Director

Requirements

Admission

The basic policy of the school is to select for the MBA program those men and women whose intellectual ability and leadership potential qualifies them for careers in management. Admission is based on the following criteria: performance on the Graduate Management Admission Test (GMAT), overall grade point average, rank in graduating class, managerial experience and other earned graduate degrees.

Applicants should have a total of at least 975 points based on the formula: $200 \times \text{the undergraduate G.P.A.} + \text{GMAT score}$. Foreign students, whose native language is not English, are required to demonstrate their proficiency in English by achieving a score of at least 500 in TOEFL.

Application should be made one month in advance of the entering dates in September, February, and June.

Program of Study

MBA students attend classes in the evenings on either a full-time or part-time basis. Students may specialize in Accounting, Finance, Personnel and Labor Relations, Operations Management, or Marketing. The MBA curriculum includes: foundation courses, core courses and advanced electives. The curriculum is designed to offer studies in business beyond the undergraduate level. Students with business degrees can normally complete the MBA program by satisfying the core and advanced elective requirements. Students with non-business undergraduate degrees will be required to complete some or all of the foundation courses. (See pp. 66-67 for Foundation courses.)

The core of the MBA program is designed to give students broad-based management skills at the graduate level. Courses in managerial economics, managerial accounting, management science, organizational behavior, marketing, finance and business policy allow students to widen their perspective and communicate more effectively with managers in other functional areas.

Advanced electives allow the student to deepen his/her knowledge in one functional area of business.

Students with recent undergraduate degrees in Business Administration or accounting should be able to complete the MBA program with 36 graduate credit hours. Students without the undergraduate business degree may be required to take additional credits in the foundation courses. Foundation courses include: micro and macro economic theory, accounting and information systems, quantitative methods and statistics, management principles, marketing, finance and business law. The foundation courses required will be named in the letter of admission. These foundation courses may be challenged by examination which may be taken only once. Such challenge exams are given on the first Friday during the months of October and March. Application forms for such examinations can be obtained from the Dean of the Graduate School (see fee schedule for cost of examination).

Graduate Management Admissions Test

This examination is an aptitude test designed to measure certain mental abilities that have been found to be important in the study of business at the graduate level. This test will be required of all students.

Application forms for the GMAT may be obtained from the Office of Career Services or by writing to the Educational Testing Service, Box 966, Princeton, New Jersey, 08540. Applicants should be registered with ETS to take the exam at least four weeks prior to the testing date. The exam will be administered on this campus on the following dates: 10-17-87, 1-23-88, 3-19-88, 6-18-88.

Curriculum

The curriculum is designed to conform with AACSB standards. Courses are given at three levels (Foundation, Core, Advanced Electives) in several functional areas. Students must complete any foundation requirements before taking Core and Advanced courses. MBA students must declare a major in either Accounting, Operations Management, Personnel and Labor Relations, Marketing, or Finance. Ordinarily, a student must have the undergraduate degree in accounting to declare a graduate accounting major. Three elective courses must be taken in the student's major field; one elective course may be taken in any MBA field.

Transfer of Credits

All foundation course credits may be transferred to the University of Scranton. A maximum of six graduate credits may be transferred to the University of Scranton.

Summary of MBA Courses

MAJOR AREA	FOUNDATION (Up to 36 cr.)	MBA CORE (24 cr.)	SPECIALIZATION COURSES (12 cr. total; min. 9 in major)
ACCOUNTING	Acc. 3 & 4 or Acc. 101	Acc. 325: Acc. for Management	Acc 421 Adv. Auditing Acc 422 Adv. Federal Tax. Acc 423 Acc. Data & Control Acc 424 Adv. Financial Acc. Acc 429 Special Topics
PRODUCTION & OPERATIONS MANAGEMENT	Math. 6 & 7 or QMS 101	QMS 342 MS I: Managerial Stat. QMS 343 MS II: Operations Mgt	QMS 441 Production Oper. QMS 442 Operations Research QMS 443 Decision Analysis QMS 444 Forecasting Models QMS 445 Info. Systems Analysis
PERSONNEL & LABOR RELATIONS	Mgt 108	Mgt 350: Organization Behavior	Mgt 451 Personnel Management Mgt 452 Labor Relations Mgt 453 Organizational Theory Mgt 454 Group Dynamics Mgt 459 Special Topics
MARKETING	Mkt 107	Mkt 360: Marketing Management	Mkt 461 Marketing Research Mkt 462 Promotion Management Mkt 463 International Market. Mkt 464 Consumer Behavior Mkt 469 Special Topics
FINANCE	Fin 110	Fin 380: Financial Management	Fin 481 Financial Institutions Fin 482 Adv. Financial Manag. Fin 483 Investments Fin 484 International Finance Fin 489 Special Topics
OTHER			
Law	Mgt 9	—	
Economics	Eco 11 & 12 or 101	Eco 305: Mgr. Economics	
Policy	—	Mgt. 390: Bus. Policy	

Course Descriptions

Foundation Area Courses

Eco 11 & 12. *Principles of Econ I & II* 6 credits

Determinants of aggregate economic activity, monetary and banking system, the composition and fluctuation of national income as influenced by monetary and fiscal policy; operation of the price system as it regulates production, distribution and consumption, international economics.

Eco 101. *Essentials of Macro-Micro* 3 credits

This course is intended only for students needing prerequisites in economics. The course will develop the theory of markets and will then focus on the problems that arise from market failures and the issues surrounding government solutions. The problem areas to be covered will include monopoly power in product and labor markets, the need for consumer protection, economic instability and inequity of market results.

Acc 3. *Financial Accounting* 3 credits.

(For non-accounting majors) A survey of the topics in Acc 1 and 2. Coverage is directed toward the reporting of financial information to interested parties. 3 hours lecture.

Acc 4. *Managerial Accounting* 3 credits

(For non-accounting majors) (Prerequisite, Acc. 3) Accounting techniques required in compiling and interpreting selected data for decision making. Includes such areas as cash and working capital flows, profit planning, statement analysis, capital investment decision, planning and controlling operations. 3 hours lecture.

Acc 101. *Survey of Managerial and Financial Accounting* 3 credits

This course is intended only for students needing prerequisites in accounting. The course will cover reporting financial information and accounting techniques for decision making, planning and controlling operations.

Math 6 & 7. *Quantitative Methods I & II* 6 credits

Finite mathematics covering functions and graphs, matrix methods, linear programming and probability, differential and integral calculus.

Qms 15. *Statistics for Business I* 3 credits

(Prerequisite, Math 7) An introduction to the elements of probability theory. The major probability distributions are covered with an emphasis on business applications. Basic concepts in decision theory are also introduced. 2 hours lecture and 1 hour lab.

Qms 109. *Introduction to Management Science* 3 credits

A survey of the quantitative techniques which are used by modern managers. Topic coverage will focus on model building, linear and non-linear programming methods and simulations. Emphasis placed on the use and limits of these quantitative methods.

Qms 101. *Quantitative Methods I* 3 credits

An introduction to various mathematical tools used in the solution of business problems. Topics include: sets, vectors, matrices, system of linear equations; functions; differential calculus of single and several variables, classical optimization and integral calculus. Introduction to computer software and its use in business.

Qms 102. *Quantitative Methods II*

3 credits

(Prerequisite, Qms 101 or its equivalent) Sample space, basic probability concepts, random variables, discrete and continuous probability distributions, sampling distributions. Linear programming problem formulation. Simplex method. Duality and sensitivity analysis. Transportation and assignment problems.

Mgt 108. *Organization and Management*

3 credits

The major concepts of managerial action dealing with planning, organizing, directing and controlling. Knowledge of these key aspects of the management process will provide the student with a framework for decision making. 3 hours lecture.

Mkt 107. *Managerial Marketing*

3 credits

Managerial analysis of the marketing activities in business firms and institutions, including issues on macroenvironment, consumer behavior and international markets. Emphasis on segmenting target markets and developing marketing policies, such as product introduction, promotional campaigns, channels of distribution and pricing targets. 3 hours lecture.

Fin 110. *Corporation Finance*

3 credits

(Prerequisite, Acc 2 or 4, Qms 16) A comprehensive study of the financing decision within a corporation. Analysis of risk and return, capital budgeting under conditions of uncertainty and financial structure.

Mgt 9. *Legal Environment*

3 credits

The nature, sources, formation and application of law. The judicial function, the court system, litigation and other methods of resolving disputes, constitutional law; legislation, law from judicial decisions, law by administrative agencies, regulation of business activity from taxation of business. Introduction to the law of contracts, antitrust laws, business organizations and security regulation, the law of employment, consumer protection, environment and pollution control.



O'Hara Hall, home of the MBA and Human Resources Programs.

M.B.A. Core Courses

Eco 305. *Managerial Economics* *3 credits*
(Prerequisite, Eco 11 & 12 or Eco 101; QMS 342) An intensive study of the problems of value and costs, including demand theory, empirical demand analysis, production theory, cost theory, linear programming applications in resource allocation and cost analysis, empirical cost analysis, market structure and pricing theory, pricing practice and the role of government in the private economy.

Acc 325. *Accounting for Management* *3 credits*
(Prerequisite, Acc 101 or Acc 4) Emphasis is placed on ways to use, analyze, and interpret accounting data in planning and controlling organizational activities. Selected techniques required for analysis and managerial decision making are introduced.

Qms 342. *Management Science I: Managerial Statistics* *3 Credits*
(Prerequisite, Math 6 & 7 or Qms 101) Statistical methods used by managers to analyze qualitative as well as quantitative data will be discussed. Such topics as regression and correlation analysis, design of experiments, and nonparametric methods are presented from a decision making approach. Emphasis will be on problem formulation and output analysis rather than on computation.

Qms 343. *Management Science II: Operations Management* *3 credits*
(Prerequisite, Qms 15 & 109 or Qms 102) The quantitative approach to managerial problems of planning and controlling the design and operation of production and other business systems. Topics include: mathematical programming, decision analysis, simulation, Markovian and queueing models, project management techniques, management of production and inventory systems.

Mgt 350. *Organizational Behavior* *3 credits*
(Prerequisite, Mgt 108 or equivalent) A primary goal of an organization is the improved performance of individuals and work groups within the organization. Organizational behavior is the field of study that investigates and explains those concepts or theories which are vital in current management practices dealing with job performance.

Mkt 360. *Marketing Management* *3 credits*
(Prerequisite, Mkt 107) Analysis of the conceptual and tactical mechanisms of marketing management with emphasis on how today's firms and institutions mobilize their resources to achieve market penetration, sales volume, and satisfactory profits. Marketing planning with control and implementation of strategies as major aspects of decision making. Also, exploring market opportunities and formulation of marketing policies (marketing mix) exemplified through case studies.

Fin 380. *Financial Management* *3 credits*
(Prerequisite, Fin 110) Principles of policy information in the modern corporation; the institutions, instruments and customary procedures that influence the determination of corporate policy; and the reasons for choices in seeking solutions to specific financial problems. A case approach will be utilized to cover problems of working capital management, capital budgeting, and capital structure. Computerized approaches to financial problems will be emphasized.

Mgt 390. *Business Policy* *3 credits*
(Prerequisite: All other core courses) Starting with conceptual and institutional foundations of business, the course covers the philosophy, history and ethics of business policy, culminating the specific areas of policy, accounting, finance, marketing and management. This course should be taken in the last semester of the student's program, and only after all other core and major courses are completed.

Advanced Electives Accounting

Acc 421. *Advanced Auditing* *3 credits*
(Prerequisite, Acc 121 or its equivalent) Audit of income statement and selected balance sheet items. The Audit Report, internal auditing, ethics of the profession. Audit case problems. Admission with consent of instructor.

Acc 422. *Advanced Federal Taxation* *3 credits*
(Prerequisite, Acc 123 or its equivalent) Corporation Income Taxes, with special emphasis on current Internal Revenue Service regulations. Partnerships included. Admission with consent of instructor.

Acc 423. *Advanced Managerial Accounting* *3 credits*
(Prerequisite, Acc 113, Acc 114 or Acc 325) Decision models including pricing factor and product combinations. Examination of the problems of control in organization including transfer pricing and performance evaluation.

Acc 424. *Advanced Financial Accounting* *3 credits*
(Prerequisite, Undergraduate accounting degree) Critical examination of the treatment of major items in the financial statements using conventional (historical cost) accounting. Examination of selected topics including: consolidations, accounting for government and non-profit institutions.

Acc 429. *Special Topics in Accounting Seminar* *3 credits*

Production and Operations Management

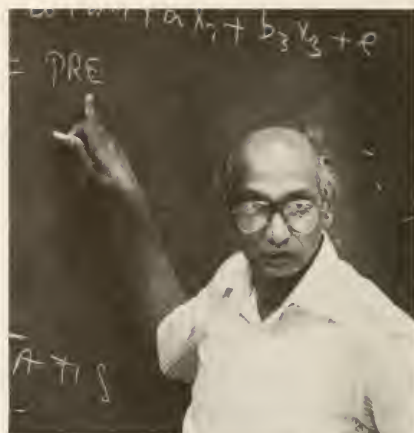
Qms 441. *Production and Operations Management* *3credits*
(Prerequisite, Qms 343) The course will focus on decisions faced by managers in the area of production and operations. Topics covered will include: facility location and layout, production-operation planning and scheduling; and operation control including quality control and inventory control. Emphasis will be focused on the solution to common problems of managers responsible for production or operations.

Qms 442. *Applied Operations Research* *3 credits*
(Prerequisite, Qms 343) A course devoted to the study of the theory and application of Operations Research models. Topics are chosen from mathematical programming, decision analysis, production-inventory management, Queueing Theory and Markov Process. Case studies of several applications illustrating different features of Operations Research will be discussed.

Qms 443. *Applied Decision Analysis* *3 credits*
(Prerequisite, Qms 342) An overview of decision analysis and modeling under uncertainty. Topics will include; behavioral assumptions and limitations of decision analysis, risk analysis, personal and group utility functions and their applications. Case studies of several applications illustrating different features of decision analysis will be discussed.

Qms 444. *Business Forecasting Models* *3 credits*
(Prerequisite, Qms 342) Techniques of business forecasting with emphasis on practical application to different business problems. Topics covered will include the forecasting process, data collection methods. Qualitative methods along with quantitative forecasting models such as regression analysis, exponential smoothing, and the Box-Jenkin technique will be studied.

Dr. Prasadamo Kakumamu, Professor of Quantitative Management Systems, specializes in operations research and information systems.



Qms 445. *Information Systems Analysis* *3 credits*
 (Prerequisite, Qms 342-343, Mgt 350, Mgt 360, Fin 380) This course introduces the student to the conceptual basis and practical design of management information systems. Identification of information requirements and information flow in an organization will be discussed. Additional topics to be covered include data management, computerized systems, and applications to functional business areas such as accounting, finance, marketing and production.

Qms 449. *Special Topics Seminar* *3 credits*
 (Prerequisite, Qms 342-343, Mgt 350, Mkt 360, Fin 380) Application of Quantitative Methods of analysis to research problems in Management, Finance, Marketing, Production Planning, and Management Information Systems.

Personnel & Labor Relations

Mgt 451. *Personnel Management* *3 credits*
 (Prerequisite, Mgt 350) Preparation of job descriptions, labor demographics, recruitment, interviewing, performance evaluation, grievances, government regulations relating to labor.

Mgt 452. *Labor Relations* *3 credits*
 (Prerequisite, Mgt 350) Analysis of human economic, political and technological factors affecting negotiations, interpretation and administrators of collective bargaining agreement between management and labor unions.

Mgt 453. *Organizational Theory* *3 credits*
 (Prerequisite, Mgt 350) Study of the forces both within and outside the organization that determine the structure and processes of an organization. Topics to be covered will include technology and size influences, conflict, boundary roles, matrix structure, political factors, and sociotechnical systems.

Mgt 454. *Group Dynamics* *3 credits*
 (Prerequisite, Mgt 350) Designing individual and group behavior systems, contemporary topics on designing organizational systems for better utilization of human resources.

Mgt 459. *Special Topics in Personnel and Labor Relations* *3 credits*

Marketing

Mkt 461. *Marketing Research* 3 credits

(Prerequisite, Mkt 360) Marketing Research is studied as the basis for decision making, for analysis of markets, and for evaluation of marketing strategies through systematic gathering of information and evidence. The foundations and methodology of research including behavioral sciences and multivariate analysis are discussed. Research projects are conducted by the class participants and research applications to marketing problems are exemplified.

Mkt 462. *Promotion Management: Advertising and Selling* 3 credits

(Prerequisite, Mkt 360) A study of the promotion activities of business firms and institutions; analysis of audience behavior and motivation; communication through mass media and person to person interaction including advertising, personal selling, sales promotion, and publicity; the development of an integrated promotional strategy to generate sales and profits through informing, persuading, and activating middlemen and consumers.

Mkt 463. *International Marketing* 3 credits

(Prerequisite, Mkt 360) A study of the managerial problems in international marketing covering factors affecting international markets in different cultural areas of the world.

Mkt 464. *Consumer Behavior* 3 credits

(Prerequisite Mkt 360) Study of the basic factors influencing consumer behavior with emphasis on managerial use of consumer decision making models from both economics and the social sciences.

Mkt 469. *Special Topics in Marketing Seminar* 3 credits

Finance

Fin 481. *Financial Institutions* 3 credits

(Prerequisite, Fin 380) A detailed survey of the more important financial institutions of the United States in order to determine their functions and interrelations in the national economy. Monetary and fiscal policy. Material covered will assist the student to better understand the economics, social and political scene in America.

Fin 482. *Advanced Financial Management* 3 credits

(Prerequisite, Fin 380) A case oriented approach to financial decision making with emphasis on current management, capital budgeting, capital structure, mergers and bankruptcy.

Fin 483. *Investment Analysis* 3 credits

(Prerequisite, Fin 380) The investment markets and financial analysis of various types of investments including industrial, railroad, utility financial institutions, real estate, government, municipal and foreign securities; the mathematics and mechanics of investments.

Fin 484. *International Finance* 3 credits

(Prerequisite, Fin 380) A detailed survey of the financial decision process of multinational corporations. Topics include, foreign exchange risks, foreign investment decisions, positioning of funds, international banking, import and export financing, multinational accounting rules and tax planning.

Fin 489. *Special Topics in Finance* 3 credits

Eastern Christian Studies

Rev. John J. Levko, S.J., Director
Sr. Joan L. Roccasalvo, C.S.J., Coordinator

Admission and Degree Requirements

Students of all religious backgrounds are welcome whether as candidates for the Master of Arts degree or as non-matriculated students who would like to enrich and broaden their own experience with some courses in Eastern Christian studies.

Admission to the Master's program requires that a student hold a Bachelor's degree with a minimum of 15 credits in theology and philosophy or their equivalent. A total of 30 credits is required for the Master's degree. One of two options may be chosen:

- a) 30 credits plus oral and written comprehensive examinations.
- b) 24 credits, a thesis and an oral defense of the thesis and written comprehensive examinations.

A 3.0 average must be maintained in order to qualify for the written and oral comprehensive examinations. The degree program is extended over a period of several summers with directed research and tutorial work available during the Fall and Spring.

It will prove useful for the student to have a reading knowledge of Latin, Greek, or an East European language.

Core Courses

The following courses are required of all degree students.

ECS 205 or 206	Byzantine Civilization I and II
ECS 210 and 211	Eastern Christian Fathers I and II
ECS 215	Eastern Liturgical Music
ECS 220	Introduction to Eastern Liturgies
ECS 225	Theology of the Byzantine Churches
ECS 230	Eastern Christian Spirituality
ECS 235	The Trinity in the Eastern Tradition

NOTE: Courses in the Eastern Christian Studies program are ordinarily offered only in the Summer Sessions.

Course Descriptions

ECS 205, 206. *Byzantine Civilization I and II* Each 3 credits

The Byzantine Empire from its origins in the 4th century to its collapse in the 15th; the political and economic growth of the empire; the cultural life of the empire with emphasis on its art and religion. The material of the first course is treated chronologically, the first part beginning with Constantine (4th c.) and ending with the close of the Macedonian Dynasty (1081); the second part ends with the Fall of Constantinople (1453). Need not be taken in sequence. (Course I or II required)

ECS 210, 211. *Eastern Christian Fathers I and II* Each 3 credits

A survey of some of the major themes of the Eastern Christian Fathers. Among the authors from whom readings will be selected are: Irenaeus, Origen, Clement of Alexandria, Gregory of Nyssa, John Chrysostom and Ephraem. (Course I and II required)

ECS 215, 216. *Eastern Liturgical Music I and II* Each 3 credits

A survey of liturgical music of the major Eastern Rite Churches: Byzantine-Greek and Byzantine-Slav, Maronite, Armenian, Copt. Special focus on a) the nature and structure of Byzantine chant before the Fall of Constantinople (1453); b) the nature and structure of Slavic chant, i.e., the chant tradition of Great Russia and that of Southwestern Rus'; Kiev-Lviv-Subcarpathian Rus' (16th-19th c.). A selective study of the liturgical music of the more recent Slavic composers. (Course I required)

ECS 220. *Introduction to Eastern Liturgies* 3 credits

The structure of the divine liturgy in the Byzantine Church. The development of the structure in the context of the Christian East (comparative liturgy). The relationship between the divine liturgy and other liturgical mysteries (the sacraments). The structure and meaning of the whole liturgical life of the Byzantine Church. The role of psalms, hymns, prayers, words and actions in the liturgical services (would include liturgical preparation for course in music, i.e., the liturgical setting of hymns)

ECS 225. *Theology of the Byzantine Churches* 3 credits

Beginning with a survey of the main developments of Byzantine theology, this course examines the important contributions of Eastern Christian thinkers in shaping the patristic heritage of the Church. It then examines characteristics of Byzantine theology in contemporary attempts to articulate our life in Christ.

ECS 230. *Eastern Christian Spirituality* 3 credits

A study of the meaning of the spiritual life for Eastern Christian writers with particular emphasis on St. Athanasius, St. Gregory of Nyssa and St. Gregory Palamas. Themes such as prayer, image and likeness with God, discernment of spirits, hesychasm and iconography will be discussed.

ECS 235. *The Trinity in the Eastern Tradition* 3 credits

The course will treat the evolution of the doctrine of the Trinity by using the sources contained in Scripture, the writing of Church Fathers and conciliar decrees by: (a) discussing the ideas of person, substance and union and how these ideas related to the philosophical systems of the times; (b) comparing and contrasting the evolution of Trinitarian models in the East and in the West; (c) analyzing the role of theologies of Basil the Great, Gregory of Nyssa, Photius, Maximus the Confessor and Gregory Palamas; (d) treating some contemporary eastern Orthodox approaches to the Trinity.

ECS 298. *Directed Study* 2-6 credits

Allows the student to pursue an area of interest under the guidance of a faculty member.

ECS 299. *Thesis* 6 credits

Students undertaking thesis work register for this course. The 6 credits of thesis may be undertaken all in one term or over a number of terms.

Department of English

Dr. Francis X. Jordan, Chair and Director of Graduate Program

Departmental Requirements

The applicant must, prior to the start of his/her graduate program, possess a baccalaureate degree; and must have completed on the undergraduate upper-division level a minimum of eighteen semester hours in English; and must, further, have a quality point index of not less than 2.75 (of a possible 4.0) in his/her upper-division courses in English. Applicants are urged to submit scores from the GRE General Test and Subject Test in Literature. For certain applicants, the Director of the Graduate Program in English may require submission of these scores.

Course Requirements

A. Master of Arts in English

Candidates for the degree of Master of Arts in English may select a thesis or non-thesis program.

M.A. Thesis Program

The M.A. thesis program will require the student to complete successfully 27 credits in courses in English, as outlined below; pass an oral exam; and present a critical study (thesis) of no fewer than 12,000 words. The comprehensive examination for the M.A. (thesis) will be an oral examination, in which the candidate will defend his thesis and be questioned on literary material from the area of his thesis and two other major areas of English or American literature. The specific areas for each student's oral examination will be established by the student and his mentor, based on the thesis topic. A summary description of the procedures to be followed in the preparation and defense of theses can be obtained from the secretary of the English Department (Room T458).

The only specific course requirement for the M.A. (thesis and non-thesis) is English 200: Introduction to Research (three credits). The remaining 24 hours of credit for the M.A. (thesis) are to be taken in courses approved by the student's mentor. These courses should be so chosen as to combine student interest in certain periods and genres, and coverage, both in range and depth, of the fields of British and American literature. The 33 credit hours necessary for the M.A. (thesis) are completed with the six hours granted for the thesis.

M.A. Non-Thesis Program

The M.A. non-thesis program requires the student to complete successfully 33 credits in courses in English, including English 200, and pass a written comprehensive examination. The examination, which is given several times a year, as scheduled by the Graduate Office, will be based on a reading list of works selected from the major areas of British and American literature. The questions require students to demonstrate their knowledge of those works, as well as the literary history of which they are a part and the characteristics of the genres they exemplify. There are several such lists, and each one is the basis for several examinations. The lists and the tests are rotated regularly. Students should ask the Department Chair for a Reading List after they have completed nine credits of graduate study, and begin then to prepare for the Comprehensive Examination. They should apply at the Graduate Office to take that examination some time during the year in which they expect to complete their degree requirements.

B. Master of Science in Secondary Education: English

For a Master of Science in Secondary Education with specialization in English, kindly refer to the criteria outlined by the Department of Education, Secondary Education for application procedures and degree requirements.

Combined Undergraduate-Graduate Programs

A special five-year program leading to the Master of Arts degree in English is offered to qualified undergraduate students which makes it possible to obtain the B.A. and M.A. degrees within the period cited. Interested students should contact the Chairman of the Department for details.



*Dr. William Rakauskas, Professor of English,
specializes in methods of teaching English and writing.*

Course Descriptions—English

English 200. *Introduction to Research* 3 credits

A survey of a selective list of books and periodicals that every student of literature should read; also an introduction to the general science of linguistics.

English 201. *History of the English Language* 3 credits

An investigation of the principal phonemic, morphological, and orthographic changes governing the evolution of the English language from Anglo-Saxon times to the present; although the approach will be historical, due emphasis will be accorded the study of our language as a living cultural entity.

English 205. *Modern Grammar in the English Curriculum* 3 credits

The theory of transformational grammar, studied against such other theories as prescriptivism, structuralism and case grammar, in practical application to the high school and college English curriculum.

English 206. *Composition in the English Curriculum* 3 credits

Designed for both high school and junior college English teachers, this course will review traditional composition programs and approaches, explore innovative programs and methods, and consider the place of composition in a variety of curricula.

English 207. *Literature in the English Curriculum* 3 credits

In considering strategies for selecting, organizing, and teaching high school literature, this course will explore the central question of what a sequential, well-balanced, efficient program in literature should consist of. It will include adolescent literature, themes, genres, socio-political movements, thematic and short courses, autotutorial devices or systems, and inquiry methods.

English 211. *Medieval English Literature* 3 credits

A critical study of the major literary works in English of the Middle Ages, from Beowulf through Everyman.

English 214. *Chaucer I: The Early Poems* 3 credits

Close study of Chaucer's poetry other than *The Canterbury Tales* with particular emphasis on *Troilus and Criseyde*.

English 215. *Chaucer II: The Canterbury Tales* 3 credits

A detailed examination of the general structure of *The Canterbury Tales* and of the individual tales, with attention to specialized critical tools and techniques, and to various critical approaches to Chaucer.

English 220. *Shakespeare and Other Elizabethan Dramatists I* 3 credits

A careful study of Shakespeare's plays written before 1600, together with selected plays of Marlowe, Kyd, Greene, and Peele.

English 221. *Shakespeare and Other Elizabethan Dramatists II* 3 credits

A careful study of Shakespeare's plays written after 1600, together with selected plays by Jonson, Chapman, Dekker, Beaumont, Fletcher, Tourneur, Marston, Middleton, Massinger, and Ford.

English 231. *Sixteenth Century Literature* 3 credits

Poetry and prose of the English Renaissance, with special attention to the new birth of poetic form; examination in depth of the great poetic achievements of Sidney, Spenser, and Shakespeare.

English 232. *Seventeenth Century Literature* 3 credits

A study in depth of the major British authors of the seventeenth century other than Milton.

English 234. *Milton* 3 credits

An appreciation of John Milton as poet, critic, and innovator, together with a critical survey of the poet's sources, poetical works, and literary forms.

English 236. *Augustan Studies* 3 credits

A study in depth of the major works of John Dryden, Alexander Pope, Jonathan Swift, Joseph Addison, Richard Steele, and William Congreve.

English 238. *Dr. Johnson and His Age* 3 credits

The works of Johnson and his contemporaries studied in the light of the social, political, and intellectual background of the second half of the eighteenth century.

English 239. *The English Novel, Defoe through Austen* 3 credits

Readings of selected novels of the eighteenth and early nineteenth centuries, with emphasis on the literary, social, and intellectual sources of the novel.

English 240. *Romantic Poetry and Criticism* 3 credits

An examination of the poetry and critical writings of the major romantic poets. The aim is not an exhaustive survey but an intensive study of several of the following: Blake, Wordsworth, Coleridge, Byron, Shelley, Keats.

English 243. *Victorian Poetry and Non-Fictional Prose* 3 credits

An examination of Victorian poetry and non-fictional prose in the light of its social, political, and intellectual backgrounds. The aim is not an exhaustive survey but an intensive study of several of the following: Tennyson, Browning, Arnold, and Pre-Raphaelites, Carlyle, Newman, Ruskin and Pater.

English 244. *The English Novel, Dickens through Hardy* 3 credits

Readings in selected Victorian novels in the light of the social, political, and intellectual backgrounds of the age, with emphasis on the artistic development of the novel.

English 250. *Studies in Modern Poetry* 3 credits

An intensive study of trends and techniques in such major twentieth century poets as Hopkins, Yeats, Auden, Dylan Thomas, Frost, Stevens and Eliot.

English 252. *Modern British Fiction* 3 credits

Readings of selected twentieth century novels in the light of the social, political, and intellectual background of the times. Such major British novelists of the century as Conrad, Joyce, D.H. Lawrence, E.M. Forster, Greene, Waugh, Virginia Woolf, and Muriel Spark will be included.

English 254. *Modern Drama* 3 credits
 The development of drama (Continental, British, Irish, and American) from Ibsen to the present day. Among playwrights whose works will be read and studied are: Ibsen, Strindberg, Chekhov, Synge, Yeats, O'Casey, Shaw, Osborne, Pinter, Brecht, Anouilh, Ionesco, Beckett, O'Neil, Anderson, Wilder, Inge, and Albee.

English 256. *American Romanticism and Transcendentalism* 3 credits
 Studies in the major works of Cooper, Poe, Hawthorne, Emerson, and Melville.

English 257. *American Realism and Naturalism* 3 credits
 Studies in the major works of Twain, Crane, Norris, James, and Howells.

English 259. *Twentieth Century American Fiction* 3 credits
 Modern American novels and short stories. The period from 1900 to the present will be covered, emphasizing such major figures as Fitzgerald, Hemingway, Faulkner, Steinbeck, and Barth.

(N.B. Each of the following seminars will involve concentrated study of a single literary figure, movement, or genre. The particular subject of each seminar will vary each year.)

English 270. *Seminar: Special Studies in English Literature* 3 credits

English 271. *Seminar: Special Studies in American Literature* 3 credits

English 272. *Seminar: Special Studies in Comparative Literature* 3 credits

English 280. *Afro-American Literature* 3 credits
 An introductory survey of Afro-American literature, stressing an in-depth examination of the works of Afro-Americans in poetry, song, drama, the novel, the essay, and the slave narrative. Emphasis will be placed on the relationship between the Afro-American experience and the African experience. The period covered is from the founding of the American nation to the present day.

English 299. *English: Thesis* 3 credits
 Students working on a thesis register for this course. Six thesis credits are normally required for MA students. These may be taken all in one term or in two different terms.

A tentative cycle indicating when courses will be offered is available from the Department. Please see the chair. Special Note on American Literature: In addition to the fixed, regularly cycled courses in American Literature (English 256, 257, 259) several other electives in American Literature are offered every year under the variable topic heading English 271 (Seminar: Special Studies in American Literature). Also, sections of English 250 and 254 deal with American Literature.

Department of History

Dr. Michael D. DeMichele, Chair
Dr. Ray Champagne, Director of Graduate Program

Departmental Requirements

The applicant must possess the baccalaureate degree and should as an undergraduate have completed a minimum of 18 upper-division semester hours in History. The applicant should have a Quality Point Index of not less than 2.75 (based on 4.0 scale) in all his/her undergraduate history courses or have attained an acceptable score on the General Test of the G.R.E. or an equivalent score in other nationally recognized tests. In the event that significant gaps occur in the student's undergraduate program, additional undergraduate history courses may be specified by the mentor.

Master Of Arts In History

Courses Requirements: The Master of Arts in History requires successful completion of 30 graduate credits.

A Thesis or Non-Thesis Program: A thesis or non-thesis program for the M.A. degree is the option of the student. Both the thesis and non-thesis programs entail successful completion of 30 graduate credits, and a successful comprehensive examination in the field. The thesis program, however, will require the student to complete successfully a total of 27 course credits and to present an acceptable thesis for which three credits will be granted. The thesis topic must be approved by the student's mentor under whose active direction the thesis shall be satisfactorily completed. The thesis must be approved by a faculty panel assigned by the Chair of the Department.

Comprehensive Examination: All candidates for the comprehensive examination in History must have the approval of the mentor, and have completed at least 24 graduate credits in the program. Ordinarily, the comprehensive examination will be a written three hour exam. The exam will be designed and graded by the student's mentor and a faculty panel to test the student's knowledge of the factual and interpretive material basic to the student's field. It will not be limited to the content material treated in the course work.

Mentor: Upon admission to the Graduate School in History, the student will be assigned a mentor who will advise the student of all course work and who, if the program includes a thesis, will direct the student's research and writing of the thesis.

Four Year B.A./M.A. Degree Program

The Department of History and Political Science offers a special program that enables the qualified student to obtain both a Bachelor's and Master's Degree within four calendar years by accelerating the student's course of study through judicious use of Intersession and Summer School, and by allowing twelve (12) graduate history credits to be applied to both the B.A. and M.A. degree programs. Students may be conditionally admitted to the program upon matriculation at the University and after approval by the Department and the Deans of the College of Arts and Sciences and the Graduate School. Students already enrolled at the University and transfer students may enter the program on a conditional basis up to the end of the second year of studies with the same approval mentioned above.

During the second year in this program, the student will be evaluated for candidacy to both degrees. The student's acceptance will be recommended by the Department and approved by the Deans of the College of Arts and Sciences and the Graduate School. No student may continue into the third year of the program unless duly notified of acceptance as a candidate. Ordinarily, no student will be admitted to candidacy unless the student has maintained an overall Quality Point Index of 3.0 (based on a 4.0 scale) in all courses and a Q.P.I. of 3.1 in all history courses. The same average should be maintained during the entire four year program. Students who fall below these requirements will be subject to review before continuation in the program.

Students enrolled in the four year B.A./M.A. Degree Program are required to complete all other degree requirements specified in the catalogs of both the College of Arts and Sciences and the Graduate School of the University of Scranton.



*Dr. Michael DeMichele, Chairman,
Department of History*

Course Descriptions—History

Hist. 200. *Science and Methods of Historians* 3 credits

A study of application of scientific methodology required for gathering, assessing, synthesizing and documenting historical information with special attention given to American historians and historiography.

Hist. 205. *America: From Province to Nation* 3 credits

An examination of selected topics pertaining to the political, diplomatic and social history of the American colonies.

Hist. 210. *The Shaping of the American Nation* 3 credits

An examination of selected topics in the period from the adoption of the Federal Constitution to the retirement of Andrew Jackson.

Hist. 212. *The American Constitution* 3 credits

Emphasis on the basics of American constitutionalism, the development of the judicial process, the problems of civil liberties and religious freedom.

Hist. 215. *America's Immigration Experience* 3 credits

An in-depth look at the immigration and Americanization of selected ethnic groups in U.S. Society.

Hist. 218. *The Local Ethnic Experience* 3 credits

Immigration to America, early ethnic groups in Northeastern Pennsylvania, coal mining in the anthracite belt.

Hist. 220. *American Expansionism* 3 credits

A study of the expansionist instinct in U.S. foreign policy from the Revolutionary days to modern times.

Hist. 225. *American Foreign Policy in the Nuclear Age* 3 credits

An assessment of American foreign policy and diplomacy in the decades since World War II.

Hist. 230. *America's Response to Industrialism* 3 credits

A study of the Civil War and Reconstruction, industrial growth and conflict, the American Black, the reform impulses and the transformation of national politics: Bryan, Roosevelt and Wilson.

Hist. 235. *Twentieth Century America* 3 credits

A study of the Great War, the Twenties, the Depression, World War II, the Cold War, and the emergence and erosion of national consensus.

Hist. 240. *American Decorative Arts* 3 credits

A study of the social and domestic history of the American people from the colonial era to the Twentieth Century through an examination of how Americans developed living patterns and artistic ambiance.

- Hist. 245. *Pivotal Elections in American History* 3 credits
An examination of the more significant and interesting Presidential elections in the history of the United States.
- Hist. 248. *Seminar in American History* 3 credits
An analysis of selected topics in American history from the Colonial era to the present.
- Hist. 250. *The British Experience.* 3 credits
A study and interpretation of the enduring political, cultural, and social heritage of Britain from the Age of Victoria to the end of the Empire.
- Hist. 255. *The Soviet Achievement* 3 credits
An analysis of the social, cultural, economic and political accomplishments of the U.S.S.R.
- Hist. 260. *Modern Germany* 3 credits
A detailed study of modern Germany from the formation of the German Empire to the demise of Adolph Hitler and the reconstruction of Germany after World War II.
- Hist. 265. *French Revolution and Napoleon* 3 credits
A study of the causes and results of the French Revolution and the Age of Napoleon and its legacy.
- Hist. 270. *Anatomy of Modern Europe* 3 credits
An analysis of the major institutions, problems and accomplishments of Europe since the end of World War II.
- Hist. 275. *Military Power in the 20th Century* 3 credits
A study of the role of military force in international relations and the impact of the military and war upon domestic society in modern times.
- Hist. 278. *Seminar in European History* 3 credits
An analysis of selected topics in European History from the nineteenth century to the present.
- Hist. 298. *Directed Study* 3 credits
Allows the student to pursue a topic of special interest under the direction of a faculty member.
- Hist. 299. *History: Thesis* 3 credits
Students working on a thesis register for this course.

Department of Chemistry

Dr. Maurice I. Hart, Chair and Director of Graduate Programs

Chemistry and Biochemistry Programs

Master of Arts programs are offered in two major fields: Chemistry and Biochemistry. The Master of Arts is a thesis degree that is directed toward subsequent work for the doctoral degree and an important preparation for research activity in industry or elsewhere. Its requirements include thirty credit hours of classroom courses and independent research under the direction of a faculty member. A language competency examination must also be completed.

Master of Science programs are offered in Chemistry and Biochemistry. The Master of Science is usually a terminal degree intended to upgrade the student's professional competency and capabilities for work in industry or secondary education. Thirty credit hours of classroom work are required.

Students may also pursue a Master's degree in Secondary Education that is correlated with Chemistry. Kindly refer to the criteria outlined by the Department of Education, Secondary Education for application procedures and degree requirements.

Admission Requirements. Applicants for the Master of Arts or Master of Science programs in chemistry or biochemistry must possess, or be in close proximity to possessing, a baccalaureate degree which includes full-year courses in General and Analytical Chemistry, Organic Chemistry, Physical or Biophysical Chemistry, General Physics and Mathematics through Integral Calculus. Applicants for the Master's degree in Secondary Education that is correlated with Chemistry must have, beside the baccalaureate degree, at least a full year of General and Analytical Chemistry, College Physics and Mathematics. A Grade Point Average of 2.75 is required both overall and in the science courses.

Certain of these requirements may be waived at the discretion of the Department Chair. Students with limited undergraduate course deficiencies may be admitted with the approval of the Chemistry Faculty on condition that such deficiencies are corrected concurrently with their initial graduate course.

Course Requirements. Core Courses are those, within each program, that are required of all candidates. Since these are the fundamental courses that form the basis of the comprehensive examinations, it is essential that they be taken first in any candidate's program before any electives.

Core courses for the Master of Arts and Master of Science degrees in Chemistry are as follows: Chem. 202, 211, 218, 221, 222, 241 and 242. The Chem. 218 requirement will be waived for those individuals who have previously taken an equivalent instrumental analysis laboratory course.

Core courses for the Master of Arts and Master of Science degrees in Biochemistry are as follows: Chem. 211, 218, 222, 233, 234 and 242. The Chem. 218 requirement will be waived for those individuals who have previously taken an equivalent instrumental analysis laboratory course. With permission, Chem. 245-246 may be substituted for Chem. 242 for those with a less complete background.

Core courses for the Master's degree in Secondary Education that is correlated with Chemistry are Chem. 202, 211, 222, 245, and 246.

Elective courses beyond the Core Courses will be chosen from among the graduate courses offered by the Chemistry Department. In the Master's degree program in Secondary Education that is correlated with Chemistry, the mentor may allow students to fulfill their requirements with other courses in Chemistry.

Clinical Chemistry Program

The Clinical Chemistry program is designed to provide advanced scientific and management training to prepare participants for leadership positions in hospital, industrial, or other private analytical laboratories. The program has two tracks: Research and Administration. The Research track is designed for students who wish to emphasize development of research capabilities. This track requires completion of a research thesis and leads to the Master of Arts degree. The Administration track is designed for students who wish to combine their scientific training with some exposure to matters of administration in health/medical/laboratory environments; this track leads to the Master of Science degree. Both tracks require a minimum of 36 graduate credits.

Admission Requirements. Applicants for the program will normally have a Bachelor's degree in Chemistry, Biochemistry, Biology, or Medical Technology. Other undergraduate degrees may be acceptable if appropriate background courses in the sciences have been taken. The undergraduate transcripts of all applicants will be examined to determine if there are any deficiencies in background courses.

An undergraduate GPA of at least 2.75, for all courses combined as well as for science courses, is expected for admission to the program.

Course Requirements. The following courses, 27 credits in all, are required of all students in the Clinical Chemistry program:

- Chem. 233 Biochemistry I
- Chem. 234 Biochemistry II
- Chem. 218 Analytical Methods
- Chem. 211 Advanced Analytical Chemistry
- Chem. 221 Structural Organic Chemistry
- Chem. 225 Chemical Toxicology
- Chem. 266 Instrumental Electronics
- Chem. 267 Biochemistry of Disease
- Chem. 268 Clinical Quality Control

While registered for Chem. 268, the student will participate in a clinical affiliation. This course will ordinarily be taken as the last course in the student's program.

Students take 9 elective credits. Electives may be taken from any of the following categories:

Thesis: Students in the Research track will take 2-6 credits of thesis work (Chem. 299). The number of thesis credits will be determined in consultation with the student's Mentor, depending on the scope of the thesis project. Normally, six thesis credits are devoted to the project.

Administration: Students in the Administration track may select from among the following courses in the Human Resources Administration (HRA) program:

- HRA 371 Organization and Administration
- HRA 373 Managerial Leadership
- HRA 397 Health and Hospital Administration
- HRA 391 Computer Technology

Students should consult with the Director of the HRA program, as well as with their Mentor, regarding specifics of these courses.

Other Chemistry Courses: Students may select other graduate courses offered by the Chemistry Department, in consultation with their Mentor, to complete their electives. Of special interest in this category are the following: Chem. 249, Chemical Statistics; Chem. 239, Immunological Chemistry; Chem. 237, Enzymology; and Chem. 214, Applied Spectroscopy.

Comprehensive Examinations

Candidates for the MA or MS degrees in Chemistry, Biochemistry, and Clinical Chemistry must pass a comprehensive examination, which consists of sections for each of the Core Courses required in the respective programs. The sections may be taken separately or all at once. No section of the comprehensive exam may be taken before the corresponding Core Course has been completed. Students who do not

pass the comprehensive exam on the first attempt will be allowed to take the entire examination a second time. Students failing the comprehensive exam for the second time will not be considered for the degree.

Course Load

The normal full-time semester load for a graduate student is 9-12 credits. The degree will ordinarily require 3-4 semesters of work.

Thesis

Master of Arts candidates in Chemistry, Biochemistry, and Clinical Chemistry are required to do independent research and write a thesis.

Early in the program, each student should choose a research director, decide with him/her on a project and then progressively carry out the necessary laboratory experimentation. When the work is complete, it must be reported in a thesis which is publicly defended before the Chemistry Department. The credits awarded for the thesis (Chem. 255) can vary from 2 to 6, depending on the needs of the student.

Graduate Assistantships

Each year approximately 20 students in the Department of Chemistry hold graduate assistantships. Teaching fellowships are available in the Department of Chemistry. Fellows, who are and must remain M.A. candidates, are responsible for four three-hour undergraduate laboratory sections a week during the two regular semesters. Compensation includes a stipend and waiver of tuition and some fees. Graduate students in the Chemistry Department are also eligible for graduate assistantships in other departments of the University, e.g., in Biology, Academic Computer Center, etc. Application for all assistantships must be made to the Graduate School of the University. Contact the Graduate School for information about current stipend levels.

Combined Undergraduate-Graduate Program

A special program leading to the Master's degree in Chemistry or Biochemistry is offered to qualified University of Scranton undergraduate students, which makes it possible to obtain both the Bachelor of Science and Master of Arts degrees within a period of four or five years. Interested students should contact the Chair of the Chemistry Department for details.

Course Descriptions—Chemistry

- Chem. 202. *Advanced Inorganic Chemistry* 3 credits
Theoretical concepts and their application to the reactions and structure of inorganic compounds. Introduction to coordination chemistry. Coordination chemistry and related topics; physical methods, reaction mechanisms.
- Chem. 211. *Advanced Analytical Chemistry* 3 credits
Theory, description, and application of modern analytical techniques with emphasis on spectroscopy, potentiometry, chromatography, electrochemistry, and radiochemistry.
- Chem. 213. *Electro-Analytic Chemistry* 3 credits
Theory and applications of potentiometry, polarography, amperometry, coulometry, and other analytical methods.
- Chem. 214. *Applied Spectroscopy* 3 credits
The use of ultraviolet, visible spectroscopy, infrared spectroscopy, nuclear magnetic resonance spectroscopy and mass spectroscopy as tools for the identification of organic compounds. The course will include laboratory work using these instruments.
- Chem. 218. *Analytical Methods* 3 credits
Laboratory practice with special and analytical apparatus and methods used for process and control, and for research. (Lab course—lab fee charged)
- Chem. 221. *Structural Organic Chemistry; Woodward-Hofmann Theory* 3 credits
A discussion on an advanced level of the most important features of structural theory, such as stereochemistry, aromaticity, resonance and modern methods of structural determination. Applications of Woodward-Hofmann theory are also discussed.
- Chem. 222. *Mechanistic Organic Chemistry* 3 credits
A consideration of the most important means of determining the detailed pathways of organic reactions. Substituent effects on rates of reactions are discussed. Mechanisms proceeding via polar, nonpolar and radical intermediates, including some biochemical reactions, are considered.
- Chem. 223. *Theoretical Organic Chemistry* 3 credits
A study of methodology of determining the relationship of structure to reactivity, the mechanisms of important reaction types and the factors that can influence rates and pathways. (Prerequisite, Chem. 222)
- Chem. 224. *Heterocyclic Chemistry* 3 credits
An introductory survey of the structure and reactivity of important types of heterocyclic compounds. (Prerequisite, Chem. 222)
- Chem. 225. *Chemical Toxicology* 3 credits
The nature, mode of action and methods of counteracting substances which have an adverse effect on biological systems, especially human. Medical, industrial, environmental and forensic aspects will be discussed.
- Chem. 228. *Organic Preparations* 1 credit
Laboratory performance of a number of typical organic syntheses, with an emphasis on the most modern techniques. (Lab course—lab fee charged)

- Chem. 233-234. *Biochemistry* 6 credits
Chemistry of carbohydrates, lipids, proteins and nucleic acids. Mechanisms and kinetics of enzyme action. A study of the metabolism, digestion and absorption of carbohydrates, lipids, amino acids and proteins.
- Chem. 236. *Biochemical Genetics* 3 credits
Principles and theories of heredity, with special emphasis on biochemical genetics, with their applications to the genetics of microorganisms and human heredity.
- Chem. 237. *Enzymology* 3 credits
A course on the chemical nature of enzymes with relation to mechanisms of enzyme action and kinetics. Purification and identification of enzymes and isozymes. Biochemical and physiological aspects of enzymes in living systems.
- Chem. 238. *Biochemical Preparations* 1 credit
Application of modern theories to biological chemical methods. Spectroscopy, chromatography, polarimetry, electrophoresis, ionophoresis. Applied problems in biochemical research using modern biochemical methods. (Lab course—lab fee charged)
- Chem. 239. *Immunological Chemistry* 3 credits
Physical-chemical properties of antibodies and antigens and their interactions. Emphasis is placed on applications in clinical and diagnostic procedures and on their use as tools in biochemical research.
- Chem. 241. *Advanced Physical Chemistry I* 3 credits
Quantum mechanics and quantum chemistry, including ad initio approaches to classic problems, perturbational theory, variational theory, time-dependent phenomena and specific applications of molecular orbital theories to organic molecules. Generalized organics of molecules. Spectroscopic applications.
- Chem. 242. *Advanced Physical Chemistry II* 3 credits
A comprehensive treatment of thermodynamics, including electrochemistry, thermochemistry and chemical equilibrium. Some introduction to the concepts of statistical mechanics and their application to thermodynamics will also be given.
- Chem. 245-246. *Intermediate Physical Chemistry* 6 credits
A review of the fundamentals of chemical principles, and a treatment of the mathematics requisite for such review. Two semesters.
- Chem. 249. *Chemical Statistics* 3 credits
This course is designed to study the practical objective of statistics and the analysis of scientific data. Emphasis is placed on those statistical techniques accepted by the major chemical journals. The course includes the recording, manipulating, and summarizing of scientific data. Experimental design, sampling, and hypothesis testing are covered along with the various tests for significance.
- Chem. 251. *Seminar* 1 credit
Current topics in chemistry and biochemistry are prepared and presented by the students.
- Chem. 261. *Polymer Chemistry* 3 credits
Introduction to the physico-chemical aspects of polymers; emphasis on structure, properties and application; thermodynamics of polymer solutions; statistical mechanical consideration of polymers; theories of rubber elasticity.

Chem. 263. *Agricultural Chemistry I*

3 credits

A study of the various biochemical pathways of photosynthetic carbon dioxide fixation in plants.

Chem. 264. *Agricultural Chemistry II*

3 credits

A study of soils and nitrogen fixation. The former including composition, physical and chemical properties, and the care of soils for agricultural purposes. The latter studies the chemistry, biochemistry, and physiology of the nitrogen cycle. Chem. 263 is not a prerequisite for Chem. 264.

Chem. 266. *Instrumental Electronics*

3 credits

An introduction to analog and digital electronics and microcomputers involved in computer automated laboratory instrumentation, including programming and interfacing required for laboratory data acquisition and control.

Chem. 267. *Biochemistry of Disease*

3 credits

A molecular description of pathological conditions in humans. Emphasis is placed on the effects of various disease states on metabolism. Diagnostic techniques and therapeutic approaches are also discussed.

Chem. 268. *Clinical Quality Control*

3 credits

A study of the design and operation of a quality control program in a clinical laboratory. The course will include all those actions necessary to provide adequate confidence that test results satisfy given requirements and standards. Such areas as statistics, patient preparation, specimen integrity, external proficiency control, internal quality control, analytical goals and laboratory management will be covered.

Chem. 298. *Special Topics*

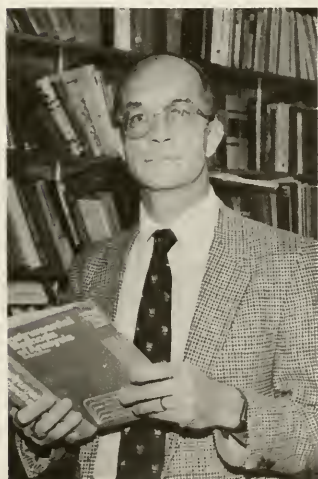
Variable credit

Current topics in chemistry, biochemistry, or clinical chemistry offered by members of the Department.

Chem. 299. *Chemistry Thesis*

2-6 credits

Students working on an M.A. thesis in the Chemistry Department register for this course. (Lab fee charged—\$15.00 per credit).



Dr. Joe Vinson, Department of Chemistry, specializes in clinical and toxicological analysis.

Master of Science In General Science

Dr. Eugene A. McGinnis, Director and Mentor for General Science

Description of Program

The Master of Science degree in General Science is assumed to be a terminal degree. It is provided so that teachers at the elementary and junior high level will be able to update their science knowledge and thus be better able to handle the recently introduced curricula with its science content. For science teachers at the secondary level it provides an opportunity to become versed in more than one area of science and consequently enhance their teaching skills.

Admission

See Admission requirements for the Graduate School.

Course Requirements

A. Master of Science in General Science

Candidates for the M.S. in General Science must successfully complete thirty (30) course credits. The core courses, of which four are normally required, are: Science 201, 202, 203, 204, 205 and 206. Additional elective courses totalling eighteen credits complete the program. These courses may be chosen, with the approval of the advisor, from course offerings in Biology, Chemistry, Physics, or Mathematics. A scholarly paper, with topic approved by mentor, is also required.

Secondary Education: General Science

B. Master of Science

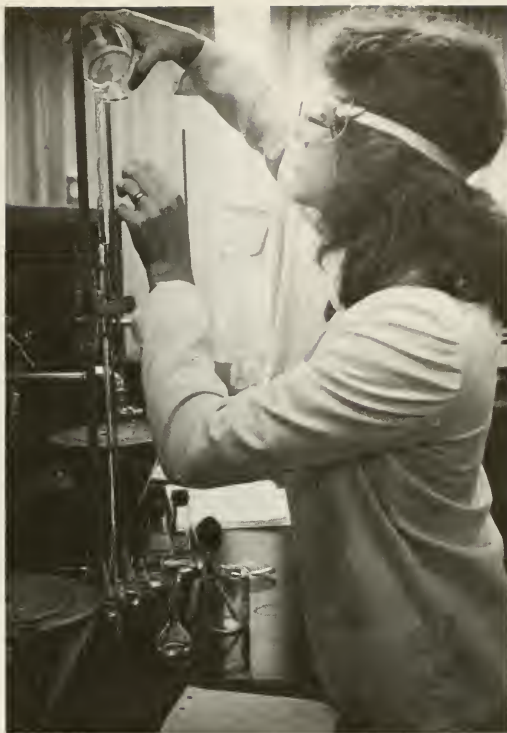
See the description of the M.S. Secondary Education: correlated programs.

Course Descriptions— General Science

Sci. 201. *History and Philosophy of Science*

3 credits

This course provides an overview of development in Physical Science from the beginning to the latest developments in Nuclear Energy. It concerns itself not only with the historical aspects of this development, but also with the philosophical implications and socio-cultural effects.



Sci. 202. *Scientific Developments Leading to
the Space Age*

3 credits

Introduction to Newton's Laws, conservation of momentum and energy. Study of Rotational motion. Study of harmonic motion and transfer of energy by waves. Probability and statistical concepts in Human Affairs. Heat and Thermodynamics, Electricity and Magnetism, History and development of space science. Part of this course will be given with a workshop approach and will introduce the student to the latest techniques and equipment utilized in teaching General Science.

Sci. 203. *Modern Physics and its Impact
on Man's Progress*

3 credits

Theory of Relativity. Transition from determinism to indeterminism. Birth of Modern Physics, Bohr atom, Wave Mechanics, Radioactivity and the Atomic Nucleus. Overall effect of science on the progress of man. Part of the course will be given with a workshop approach and will introduce the student to the latest techniques and equipment utilized in teaching General Science.

Sci. 204. *Chemical Concepts and Their Significance
in Life*

3 credits

Nature of chemical bonds and reactions. Chemistry of carbon as an organic basis for living organisms. Organic, Inorganic, and Physical chemistry in relation to the origin and continuance of life. Significance of chemical principles in the interaction between living organisms and their environment.

Sci 205. *Chemical Compounds as a Basis for Life* 3 credits
Biochemical production, function, and nature of the building blocks for the living cell.
Chemistry of heredity and information systems. Energy conversions in the living cell.
Biochemical aspects of the interaction between organisms, environment and drugs.

Sci. 206. *Biological Structure and Function of Living Organisms* 3 credits
Molecular, psychological and morphological levels of organizations. Differentiation, division and growth of cells. Biological and psychological aspects of genetics, reproduction and ecology.

Sci. 207. *Geology* 3 credits
The earth: its structure, composition, and agents of construction and destruction.
Evolution of the earth and the development of life upon it. Identification of rocks and minerals. Interpretation of topographic and geologic ages.

Sci. 208. *Astronomy* 3 credits
Survey of solar systems, stars and galaxies. Observational basis of Astronomy. Discussion of artificial satellites and space vehicles as a modern method of obtaining scientific information. Opportunity for astronomical observation will be provided.

Sci. 209. *Meteorology* 3 credits
Study of the atmospheric and the principles associated with atmospheric changes.
Methods for observing and recording weather data. Reading and interpreting weather maps. Workshop approach used for part of the course.

Sci. 210. *Science and the Human Environment* 3 credits
The effects of the technological, scientific and industrial progress on air, land and water resources of the human environment will be studied. Problems in each of the resource areas will be discussed in detail. Lecture-Demonstration.

Sci. 211. *Energy and Environment* 3 credits
The primary goal of this course is to provide a quantitative description of the twin crises of energy and environment. The secondary goal is to demonstrate how science can and must contribute to the understanding and the solution of these complex societal problems. It is hoped that the students taking this course will be led to distinguish between reasoning based on science and emotionalism often associated with propaganda and polemics linked to these crises. Lecture-demonstration of solar energy techniques and systems. Workshop approach used for part of the course.

Sci. 212. *The Chemistry and Action of Drugs* 3 credits
Introductory study of physiological and psychological effect of commonly used drugs on humans. Drug action in relation to molecular biological structure and function.

Sci. 213. *Experiments for General Science Teachers* 3 credits
This course is designed to illustrate to science teachers how they can make effective use of demonstration methods and experiments in their own classrooms. The course will be a mixture of classroom lectures and laboratory experiences. The student will get "hands on" experience with the demonstrations. It will be shown that many of the concepts of science can be readily and effectively demonstrated with common every day items. Some use will also be made of the commercially available science kits.



*Rev. J. A. Panuska, S.J.,
President of the University of Scranton*



*Dr. Richard Passon,
Provost and Academic Vice President.*

Faculty Directory

Officers of the University Corporation

The Rev. J. A. Panuska, S.J., President

Marilyn Coar, Secretary

Robert T. Ryder, Treasurer

Officers of Administration

- The Rev. J. A. Panuska, S.J. (1982)
President of the University (1982)
Professor of Biology (1982)
B.S., Loyola College;
S.T.L., Woodstock College;
Ph.L., Ph.D., St. Louis University
- Richard H. Passon (1984)
Provost/Academic Vice President (1984)
Professor of English (1984)
A.B., King's College;
M.A., Ph.D., University of Notre Dame
- Thomas P. Hogan (1985)
Dean, Graduate School (1985)
Professor of Psychology (1985)
B.A., John Carroll University;
M.A., Ph.D., Fordham University
- Shirley M. Adams (1986)
Dean, Dexter Hanley College (1986)
Assistant Professor of Education (1986)
B.A., University of Northern Iowa;
M.A., University of Iowa
Ph.D., Iowa State University
- John W. Carlson (1983)
Dean, College of Arts and Science (1986)
Associate Professor of Philosophy (1983)
A.B., St. Mary's College (Calif.);
Ph.D., University of Notre Dame
- John E. Gay (1987)
Dean of The College of Health, Education,
and Human Resources (1987)
B.S., State University College, Buffalo;
M.A., California State University;
Ed.D., West Virginia University
- Joseph Horton (1986)
Dean, School of Management (1986)
Professor of Economics/Finance (1986)
B.A., New Mexico State University;
M.A., Ph.D., Southern Methodist
University
- Lee Williames (1987)
Assistant Provost/Assistant Vice President
(1987)
Professor of History (1987)
B.A., La Salle University;
M.A., Niagara University;
A.C.S., Niagara University;
Ph.D., SUNY Binghamton
- John S. Flanagan (1974)
L/Colonel, U.S. Army—Ret.
Vice President for Administrative Services
(1974)
Lecturer in Management/Marketing (1974)
B.A., College of William and Mary;
M.S., University of Alabama
- Robert T. Ryder, D. Et U. (1946)
Treasurer (1974)
Vice President for Finance (1982)
Lecturer in Accounting (1963)
B.S., M.B.A., University of Scranton
- John R. Gavigan, D. Et U. (1950)
Vice President for Student Affairs (1976)
A.B., University of Scranton
- Robert J. Sylvester (1983)
Vice President for Development (1976)
B.S., University of Scranton
- Bernard R. McIlhenny, S.J. (1958)
Dean of Admissions (1981)
A.B., M.A., Loyola University, Chicago;
S.T.B., Woodstock College
- Thomas D. Masterson, S.J. (1976)
Director of Campus Ministries (1976)
Assistant Professor of History (1976)
A.B., M.A., Fordham University;
Ph.L., S.T.B., S.T.L., Woodstock College;
M.A., Ph.D., Georgetown University
- Kenneth J. Oberembt (1979)
Director of Alumni Memorial Library (1979)
B.A., St. John's University;
M.A., University of Illinois;
M.S., Columbia University;
Ph.D., University of Iowa
- Glenn Pellino (1980)
Vice President for Planning and
Administration (1986)
B.A., M.A., St. Louis University;
Candidate Ph.D., University of Michigan
- Harry B. Strickland, D. Et U. (1963)
Liaison for Inter-Governmental Affairs
(1983)
Associate Professor of Economics/Finance
(1968)
B.S., St. Vincent's College;
M.L., Ph.D., University of Pittsburgh

University of Scranton The Graduate Faculty

- David C. Adams (1983)
Associate Professor of
Management/Marketing (1984)
B.S., Rochester Institute of Technology;
M.S., SUNY College of Environmental
Science;
Ph.D., Syracuse University
- Panos Apostolidis (1977)
Associate Professor of
Management/Marketing (1977)
B.A., University of Athens;
M.B.A., University of Houston;
Ph.D., University of Arkansas
- Martin D. Appleton, D. Et U.* (1955)
Professor of Chemistry (1964)
B.S., University of Scranton;
M.S., Ph.D., Pennsylvania State University
- George V. Babcock, Jr., D. Et U. (1963)
Associate Dean, School of Management
(1986)
Associate Professor of Economics/Finance
(1974)
A.B., M.A., Ph.L., Boston College;
M.B.A., New York University;
Doctoral Studies, Cornell University
- Christopher Bauman (1984)
Assistant Professor of Chemistry (1984)
B.S., Oregon State University
Ph.D., University of Florida
- Rebecca S. Beal (1983)
Assistant Professor of English (1983)
A.B., Westmont College;
M.A., University of Chicago;
Ph.D., University of Texas
- Gerald Biberman (1981)
Associate Professor of
Management/Marketing (1987)
B.A., M.A., Ph.D., Temple University
- Mrigen Bose (1968)
Associate Professor of Economics/Finance
(1977)
B.S., Patna University;
M.S., University of Kentucky;
Ph.D., University of Utah
- Charles J. Buckley, D. Et U. (1947)
Dean Emeritus, Dexter Hanley College
(1984)
Assistant to the Academic Vice President
(1984)
Associate Professor of Accounting (1968)
B.S., University of Scranton, M.B.A.;
Doctoral Studies, New York University
- Everett R. Brown (1975)
Associate Professor of
Management/Marketing (1979)
B.S., Stevens Institute of Technology;
M.B.A., Ed.D., Temple University
- Michael C. Cann (1975)
Associate Professor of Chemistry (1978)
B.A., Marist College;
M.A., Ph.D., SUNY at Stony Brook
- Joseph M. Cannon, D. Et U.* (1959)
Professor of Education (1974)
B.S., University of Scranton;
M.Ed., Doctoral Studies, Pennsylvania State
University; Licensed Psychologist
- Brian W. Carpenter (1987)
Assistant Professor of Accounting (1987)
B.S., Pennsylvania State University;
M.B.A., University of Scranton;
Ph.D., Pennsylvania State University
- Ellen M. Casey (1969)
Professor of English (1981)
B.S., Loyola of Chicago;
M.A., University of Iowa;
Ph.D., University of Wisconsin
- Raymond W. Champagne, Jr. (1967)
Professor of History (1981)
A.B., Providence College;
M.S., Duke University;
Ph.D., Loyola University of Chicago
- Ying I. Chein (1979)
Associate Professor of Quantitative
Management Systems (1979)
B.S., National Taiwan University;
M.S., University of Manitoba;
Ph.D., University of Kentucky
- Jafor Chowdhury (1987)
Assistant Professor of Management and
Marketing (1987)
B.Com., Dacca University;
M.Com., Dacca University;
M.B.A., Dalhousie University;
Ph.D. Cand., Temple University
- Joseph W. Connolly (1983)
Associate Professor of Physics/Electronic
Engineering (1983)
B.S., University of Scranton;
M.S., University of Illinois;
Ph.D., Pennsylvania State University
- Willis M. Conover (1978)
Associate Professor of History (1986)
B.A., B.S., The Pennsylvania State
University;
M.S., Ed.D., Montana State University
- Frank P. Corcione (1978-79; 1982)
Associate Professor of Economics/Finance
(1982)
B.A., Moravian College;
M.A., Ph.D., Lehigh University

- James J. Cunningham (1968)
Associate Professor of Counselor Education
(1971)
A.B., King's College;
Ed.M., Ed.D., Rutgers University;
Licensed Psychologist
- Wayne H. J. Cunningham (1987)
Associate Professor of Quantitative
Management Systems (1987)
B.S., Pennsylvania State University;
M.B.A., Pennsylvania State University;
Ph.D., Pennsylvania State University
- Francis H. Curtis, D. Et U. * (1966)
Associate Professor of Education (1980)
B.S., M.Ed., Doctoral Studies,
Pennsylvania University
- Thomas W. Decker (1977)
Associate Professor of Human Resources
(1982)
B.A., Dickinson College;
M.Ed., University of Virginia;
Ph.D., Ohio State University;
Licensed Psychologist
- Michael D. DeMichele, D. Et U. * (1967)
Professor of History (1974)
Chair, Department of History (1976)
B.S., University of Scranton;
M.A., Ph.D., Pennsylvania State University
- Trudy Dickneider (1984)
Assistant Professor of Chemistry (1984)
B.A., M.A., St. Joseph's College;
Ph.D., University of Miami
- Anthony J. DiStefano (1968)
Associate Professor of Physics (1977)
B.E.E., Brooklyn Polytechnic Institute;
M.A., Columbia University;
Ph.D., Stevens Institute of Technology
- David J. Doiron (1985)
Assistant Professor of Physics/Electronics
Engineering (1985)
B.S., Massachusetts Institute of Technology;
M.S., University of New Hampshire;
Ph.D., University of Iowa
- Joseph C. Dougherty (1967)
Professor of History (1967)
B.A., St. Charles;
M.A., Ph.D., Georgetown University
- Joseph H. Dreisbach (1978)
Associate Professor of Chemistry (1983)
B.S., LaSalle College;
M.S., Ph.D., Lehigh University
- John L. Earl, III, D. Et U. * (1964)
Professor of History (1972)
B.S., M.A., Villanova University;
Ph.D., Georgetown University
- Mary F. Engel (1986)
Associate Dean, College of Arts and Sciences
(1986)
Associate Professor of English (1986)
B.A., St. Bonaventure University;
L.L., Katholieke Universiteit te Leuven;
Ph.D., Kent State University
- Leeann Eschbach (1986)
Instructor, Education (1986)
B.S., M.S., Ph.D. Cand., Washington State
University
- Paul F. Fahey (1968)
Professor of Physics (1978)
Chair, Department of Physics (1982)
B.S., University of Scranton;
M.S., Ph.D., University of Virginia
- Matthew C. Farrell, D. Et U. * (1967)
Professor of Education (1976)
B.A., M.S., University of Scranton
Ph.D., Fordham University
- John Q. Feller (1969)
Professor of History (1976)
A.B., Loyola College;
M.A., Ph.D., Catholic University
- Joseph A. Fusaro (1974)
Professor of Education (1983)
B.A., Rider College;
M.Ed., University of Vermont;
Ed.D., State University of New York at
Albany
- Thomas W. Gerrity (1976)
Associate Professor of Education (1986)
B.S., University of Pennsylvania;
M.S., University of Scranton;
Ed.D., Columbia University
- Satyajit Ghosh (1986)
Assistant Professor of Economics/Finance
(1986)
B.A., M.A., Presidency College, University
of Calcutta;
Ph.D., State University of New York at
Buffalo
- A. John Giunta, D. Et U. * (1960)
Professor of Economics/Finance (1967)
B.S., Harpur College;
M.S., Ph.D., Syracuse University
- Leonard G. Gougeon (1974)
Professor of English (1982)
B.A., St. Mary's University, Halifax;
M.A., Ph.D., University of Massachusetts
- Ralph W. Grambo (1973)
Associate Professor of Economics/Finance
(1978)
B.S., University of Scranton;
M.B.A., Ph.D., University of Pennsylvania
- Ronald J. Grambo, C.P.A. (1976-77; 1980)
Associate Professor of Accounting (1985)
B.A., M.B.A., University of Scranton;
Ph.D., Pennsylvania State University

- David W. Hall (1985)
Assistant Professor of Human Resources (1986)
A.B., Lycoming College;
M.S., University of Scranton;
Ph.D., Pennsylvania State University
Certified Rehabilitation Counselor, National
Certified Counselor
- Joseph A. Hammond, CPA (1983)
Instructor in Accounting (1984) (on leave)
B.S., Lehigh University (1965);
M.B.A., University of Scranton (1983)
- Maurice I. Hart, Jr., D. Et U.* (1963)
Professor of Chemistry (1971)
Chair, Department of Chemistry
A.B., Maryknoll College;
M.S., Ph.D., Fordham University
- John M. Hill (1981)
Associate Professor of English (1987)
B.A., Central College;
M.A., University of Illinois;
M.F.A., University of Iowa;
Ph.D. Cand., University of Illinois
- Frank X. J. Homer (1968)
Professor of History (1984)
A.B., University of Scranton;
M.S., Ph.D., University of Virginia
- Robert F. Hueston (1968)
Associate Professor of History (1976)
A.B., College of Holy Cross;
M.A., Ph.D., University of Notre Dame
- Riaz Hussain (1967)
Associate Professor of Economics/Finance (1985)
B.S., Forman College;
M.S., University of Panjab;
Ph.D., Johns Hopkins University
- Bernard J. Johns, D. Et U.* (1961)
Associate Professor of Mathematics (1979)
A.B., Wilkes College;
M.A., Bucknell University;
Doctoral Studies, University of Illinois
- Francis X. Jordan (1966)
Chair, Dept. of English (1987)
Associate Professor of English (1976)
A.B., M.A., University of Scranton;
Ph.D., St. Louis University
- Prasad Rao V. Kakumanu (1978)
Professor of Quantitative Management Systems (1984)
B.S., Andhra University;
M.S., Patna University;
M.A., Delhi University;
Ph.D., Cornell University
- John R. Kalafut, D. Et U.* (1965)
Professor of Physics (1974)
B.S., University of Scranton;
M.S., University of Delaware
- Raymond L. Kimble (1973)
Associate Professor of Education (1973)
B.S., Mansfield State College;
M.S., State University of New York, Cortland;
Ed.D., Arizona State University
- A. Stanley Lefkowitz (1984)
Lecturer in Management/Marketing (1984)
B.S., City University of New York;
M.B.A., New York University
- Allan Marber (1985)
Associate Professor of Management/Marketing (1985)
B.A., Michigan State University;
M.B.A., Baruch College, CUNY;
Ph.D., New York University
- Michael Marino, D. Et U.* (1965)
Professor (1970);
Chair, Dept. of Education (1986)
B.S., M.S., Brockport State College;
Ed.D., University of Buffalo
- David E. Marx (1987)
Instructor of Chemistry (1987)
B.S., East Stroudsburg University;
Ph.D. Cand., SUNY Binghamton
- Michael O. Mensah (1987)
Assistant Professor of Accounting (1987)
B.S., University of Ghana;
M.B.A., Northeast Louisiana University;
Ph.D. Cand., University of Houston
- Eugene A. McGinnis, D. Et U.* (1948)
Professor (1963)
B.S., University of Scranton;
M.S., New York University;
Ph.D., Fordham University
- John M. McInerney, D. Et U.* (1966)
Professor of English (1977)
A.B., Le Moyne College; M.A.,
Ph.D., Loyola University of Chicago
- Louis D. Mitchell, D. Et U.* (1961)
Professor of English (1968)
B.A., M.A., Fordham University;
Ph.D., New York University
- John J. Murray, D. Et U.* (1957)
Professor of English (1968)
B.S., University of Scranton; M.A.,
The Catholic University of America;
Ph.D., New York University
- Jay Nathan (1983)
Associate Professor of Quantitative Management Systems (1983)
B.S., M.S., University of Madras;
M.E., University of Florida;
M.B.A., M.A., Ph.D., University of Cincinnati



UNIVERSITY OF SCRANTON

The Graduate School
Scranton, Pennsylvania
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Where Potential
Becomes
Achievement
in the
Jesuit Tradition